A.Y. 2020-21

List of Number of papers published per teacher in the Journals notified on UGC website during the years

(Criteria 3.2.1)

Sr. No.	Title of paper	Name of the author/s	Name of journal	ISSN number
1	Sun Tracing Solar Panel In Two Axis Using Arduino And Servo Motor	Prof. Swati Khawate, Saloni Aitlawar, Krishnakant Nivangune, Pratik Tapkir	International Journal of All Research Education & Scientific Methods. (IJARESM)	ISSN No: 2455-6211
2	Automation of Home (IoT) using Raspberry Pi	Prajakta Khairnar, Sukanya Bansode , Balveen Sahota , Priyanka Chourasia	International Journal of Scientific Research in Science, Engineering and Technology	2395-1990Print ISSN: 2395-1990 Online ISSN : 2394-4099
3	AN ASSESSMENT - WATER QUALITY MONITORING PRACTICES AND SEWER ROBOTIC SYSTEMS	Saniya Ansari, S. M. Khairnar, Ravindra R. Patil, Rupali S. Kokate	IT in Industry, Vol. 9, No.1, 2021	ISSN (Print): 2204-0595
4	"IoT Based Smart Kitchen System"	Ashwini Bagde,Shubham More, Shridhar Shelar, Vaibhav Randhawe		
5	Improving the Deposit Efficiency of Nano Composite Deposits on AZ91 Magnesium Alloy by Using a Suitable Bath Composition and Operating Conditions	Dr. F B Sayyad and Dr. Rohan Senanayake	Materials Today Proceeding	2214-7853
6	Experimental and weight optimization of existing steering column	Kamalakar Wagh and Dr F.B. Sayyad	Dogo Rangsang Research Journal	2347-7180

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7	Design and Development of Air Compressor Crankshaft using FEA and Strain Gauge	Vishal Salunkhe and Dr F.B. Sayyad	Dogo Rangsang Research Journal	2347-7181
8	Modal and harmonic analysis of beam subjected to transverse vibrations using FFT analyzer	Himanshu Manjrekar, and Dr F.B. Sayyad	Journal of Interdisciplinary Cycle Research	0022-1945
9	Design and Optimization of Air Compressor Crankshaft using FEA and Strain Gauge	Vishal Salunkhe and Dr F.B. Sayyad	International Journal of Emerging Technologies and Innovative Research	2349-5162
10	Design and analysis of Tubular lower control arm for Macpherson strut suspension	Manoj Wakhare and Dr F.B. Sayyad	CEJ Journal	0898-3577
11	Modal and Harmonic Analysis of Beam and Rotor Motor Assembly Subjected to Transverse Vibrations Using FFT Analyzer	Himanshu Manjrekar, and Dr F.B. Sayyad	CEJ Journal	0898-3578
12	Effect of Nano Coatings on Magnesium alloy on their Surface Properties: A Review	Dr. F B Sayyad and Dr. Rohan Senanayake	Dogo Rangsang Research Journal	2347-7182
13	Influence of micro B4C ceramic particles addition on mechanical and wear behavior of aerospace grade Al-Li alloy composites	Chetan S Patil, Dr Mohd Imran Ansari, Ras Selvan & Dineshsingh G Thakur	Sādhanā	0973-7677
14	Rehabilitation of RC Column using Fibre Reinforced Polymer Wrapping	Aniket Vilas Nemade	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0072
15	Redevelopment of slum with Special Emphasis on Low and Materials	Aniket Vilas Nemade	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0072
16	Structural Health Monitoring in Civil Engineering	Aniket Vilas Nemade	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0072
17	Construction Monitoring and Control for Infrastructure Projects: A Review.	Aakanksha Ingle	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0072

18	A REVIEW PAPER ON STUDY OF EFFECT OF RICE HUSK ASH (RHA) ON MECHNICAL PROPERTY OF CONCRETE	Prasad R Gayake	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0072
19	EFFECT OF VARIOUS ADMIXTURE ON STRENGTH OF CONCRETE	Ahinsak B Taksande	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0072
20	DESIGN OF WATER DISTRIBUTION NETWORK(WDN) USING OPENSOURCE SOFTWARE	Uzma Sheikh	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0073
21	SEDIMENTATION ANALYSIS OF DAM USING GIS TECHNIQUES	Uzma Sheikh	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0073
22	Challenges and Solutions for Facility Management in Housing Societies	Sanjay Karodpati, Uday Kakde	International Journal of Recent Advancesin Multidisciplinary TopicsVolume 2, Issue 2	ISSN (Online): 2582-7839
23	Design of Net Zero Energy Building	Swapnil Bijwe	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0072
24	DESIGN OF SEWAGE TREATMENT PLANT (STP) FOR WAGHOLI CITY PUNE MAHARTASHTRA	Swapnil Bijwe	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0072
25	Assessment for Water Quality of Mutha River using Correlation	Swapnil Bijwe	International Journal of Trend in Scientific Research and Development (IJTSRD)	e-ISSN: 2456 – 6470
26	Making a Construction Project more efficient using Clash Detection	Prof S M Karodpati	International Research Journal of Engineering and Technology (IRJET)	e-ISSN:2395-0056 p-ISSN:2395-0072
27	Erosion Control of Slopes Using Paddy Straw Geomesh	Prof Rajesh Katdare	International Journal of Engineering Trends and Technology	ISSN: 2231 – 5381 /doi:10.14445/22315381/IJETT-V69I1P210
28	Troll Detection and Anti-Trolling Solution using	Saloni Dangre, Shubham Sharma, Swati Balyan, Tanisha	International Journal of Scientific Research	ISSN : 2395-602X

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29	Training an AI agent to play a Snake Game via Deep Reinforcement Learning	Reetej Chindarkar, Kartik Kaushik, Rutuja Vetal, Ronak Thusoo, Prof. Pallavi Shimpi	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
30	Crime Awareness and Registration System	Sudarshan Jagdale, Piyush Takale, Pranav Lonari, Shraddha Khandre, Prof. Yogesh Mali	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
31	Emotion Recognition Based Personal Entertainment Robot Using ML & IP	Shivani Chougule, Shubham Bhosale, Vrushali Borle, Vaishnavi Chaugule, Prof. Yogesh Mali	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
32	Automatic Whitelist Generation for SQL Queries Using Web Application Test	Venkati Mane, Jayesh Trivedi, Manalikamble, Shital Janjal, Prof. Vandana Chavan	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
33	IOT Based Smart Electric Meter	Shikha Kushwaha, Sahil Dhankhar, Shailendra Singh, Vishal Kisan Borate	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
34	Identify the Hacker Using IDS And Prevent the Hacker Using IPS to secure the Cloud Data	Geetanjali Pandey, Maithili Gavli, Shruti Khaire, Pragati Mote, Prof. Vandana Chavan	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
35	Automated Website Development	Tushar Gangurde, Shivaraya Patil, Vaibhav Patil, Akshya Mahale	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
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40	Helmet Detection on Two Wheeler Riders using Machine Learning and Automatic Licence Plate Recognition for Identification	Vaibhav Kharade, Rachana Jaykumar, More Pratik, Mahendra Mahaja, Jayashree Chaudhari	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
41	Survey on Aid Donation Tracking Using Blockchain	Adesh Kolte, Prashant Chaudhari, Nihal Chhetri, Prof. Monika Dangore	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
42	Survey on Botnet and Its Detection Techniques	Shubham Gour, Yogesh Bhosle, Onkar Jagtap, Pratik Nirmale, Prof. Monika Dangore	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
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58	Patient Feedback using Speech Emotion Recognition	Rutuja Patil, Siddhi Salunke, Pournima Ubale, Mayur Talole,	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X

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63	Design and Implementing Brain tumor Detection Using Machine Learning Approach	Swati Jagtap, Sadichha Khedkar, Meghana Rikibe, Sampada Pathare, Prof. Amruta Chitari	International Journal of Scientific Research in Science and Technology	ISSN : 2395-602X
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Sun Tracing Solar Panel in Two Axis Using Arduino and Servo Motor

Prof. Swati Khawate[1], Saloni Aitlawar[2], Krishnakant Nivangune[3], Pratik Tapkir[4]

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ABSTRACT

Present solar system generates less amount of heat and electrical energy. This is because, the direction of solar panel is fixed and sun rotate in 180°. To increase the output voltage and power generated by the solar panel, they must rotate their self in the direction of sun rays. This can be possible by the use of servo motor, Light Detecting Resistance (LDR) and Arduino microcontroller. This project develops a laboratory prototype of a solar tracking system, which is able to enhance the performance of the photovoltaic modules in a solar energy system. The operating principle of the device is to keep the photovoltaic modules constantly aligned with the sunbeams, which maximizes the exposure of solar panel to the Sun's radiation. As the result shows that the more output power can be produced by the solar panel.

This system uses an ATmega328P microcontroller to control motion of two servo motors, which rotate solar panel in two axes. The number of rotations was determined by the microcontroller, based on inputs retrieved from four photo sensors located next to solar panel. This system keeps the solar panel position with the sun, or any light source repetitively. The design of the solar tracker from this project is also a reference and a starting point for the evolutionof more advanced systems in the future.

Keywords: Arduino, solar panel, LDR, photo sensor

INTRODUCTION

India has a relatively long sunny day for more than ten months and partly cloudy sky for most of the days of the rest two months. Which makes our country, especially the desert sides in the west, which comprises Rajasthan, Gujarat, Madhya Pradesh etc. very rich is solar energy. Many projects have been done using photovoltaic cells in collecting solar radiation and converting it into electrical energy but most of these projects did not take into account the variation of the sun angle of incidence by installing the panels in a fixed orientation which influences very highly the solar energy collected by the panel.

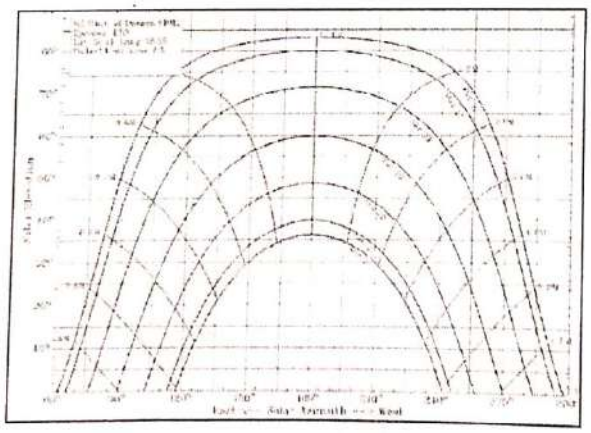

Figure 1: - Sun path at latitude of 310°

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Automation of Home (IoT) using Raspberry Pi

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ABSTRACT

Internet of things is the present technology that permits us to control hardware via the internet. Using IOT system, we can link the physical devices and possess the ability to send or transfer data over a network with either human-to-human or human-to-system interaction. This paper explains how to control home appliances using Internet of Things. The microcontroller we are using for this project is Raspberry Pi. The Raspberry Pi is interfaced with Wi-Fi modem for transmitting and receiving commands over the internet. To switch loads, we are using relays. Once the user passes instructions over the internet to switch on the appliance, the raspberry pi processes these commands and operates accordingly. Liquid Crystal Display is used to display the status of the system. Hence, IOT based home automation setup allows us to control home appliances over the internet.

Keywords: Home automation, IOT, Raspberry Pi, and Wi-Fi.

I. INTRODUCTION

We are presenting a system for Automation of home with Raspberry Pi using IOT (Internet of Things). In the field of home automation, appliances were controlled using technologies such as Wi-Fi connected automation system and ZigBee based home automation system, GPRS based home automation system. But these technologies were limited to the device range (which was within a home). Internet (IOT) based home automation is the present mechanization with the help of which we can control almost every home appliance from any place remotely using Internet Connectivity. In this project we have created a model that monitors and controls devices via web interface, when connected to the internet that can be accessed through tablets, smartphones and computers. To attain this, we are using Raspberry Pi, which reduces the complexity of design and is economical in cost. The main merit of having such a technology is that we can control our devices and home appliances throughout the globe. For example, one morning you are rushing to your work place and forget to switch off fans and lights, then you can go to our device control interface and select the appliances to be switched off and complete the task from your workplace. Also, on a sunny day you can switch ON the Air conditioner in your room while driving back home, so that you don't have to wait for it to cool the room after getting home. Internet of Things is a technology which can be used at home, business or industrial environment based upon your requirement.

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AN ASSESSMENT - WATER QUALITY MONITORING PRACTICES AND SEWER ROBOTIC SYSTEMS

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Abstract: Water pollution has become a global issue and creating a severe problems due to contamination of various water sources such as agricultural waste, industrial waste, and sewage waste etc. So, the available sensory systems, nodes, and techniques plays a crucial role in identification of harmful pollutants in distinct water resources. The water pollutants monitoring techniques with prospered tools and sensors have been unfolded to find gap for future research maneuver. The need of real-time newer sensory system has been put forwarded for identification of mostly occurring harmful pollutants such as BOD, COD, TSS, and Hydrogen sulfide in examination of water quality.

In this modern advancement, robotic systems have taken an intrinsic stand in diverse fields of humankind. An underground infrastructure is a base of modern society. In this paper, the existing methodologies and developed sewer robotic systems have been discussed and concluded on their applications, limitations and impact on realistic scenarios. Also, the cardinal point is revealed that previous art work focused only on sewer defect identification but not standardized work on sewer blockages detection and removal. So, the sewer robotic system with features of cost effectiveness and standardized accuracy matrix should be developed to resolve sewer blockage issues and followed by human scavenging. The survey outcomes extend a province of sewer roboties to resolve blockages issues of buried sewers of distinct diameters in real-time with substantial methodology.

Keywords: **Water quality sensors, Water Monitoring techniques, Sewer Robots, Sewer Examination Methodologies, Assessment, Discernments**

1. Introduction

Polluted water needs to be clean and pure by removing the hazardous pollutants to protect human health from various types of diseases. The clean water is contaminated due to impurities added by industrial and agricultural discharge. The amount of largest discharged of sewages into the lakes and rivers affects not only on environment but also on human beings leading to various health issues and diseases. Chemical Pollution occurs when chemicals resulting into the environment by human activity. The water, soil, acid rain, greenhouse gases and ozone gas contaminating air are some examples of it. Chemical contaminants present in water are color less so it cannot be detected by observing human eye. The main chemicals available in water are pH, dissolved oxygen-O2, temperature, electrical conductivity, Oxidation reduction potential, turbidity, and dissolved ions etc. in [1].

The universally, every nation spend a large amount on assessment of buried infrastructure. The complex issues have to face during these assessment campaigns. So, the sewer robotics has become a comprehensive research area from earlier. The no autonomy, semi-autonomy, and full autonomy are the crucial types of robotic systems. The PIRAT, KARO, KURT, MAKRO, and KANTARO are traditional sewer robotic inspection systems as well as modern SIAR Project, which all clarify about attempts. All these systems focused only on defect identification but not tried to resolve any issue in real-time. Most commonly used sewer assessment techniques such as the SSET, CCTV, and Laser Scanning. The computer vision methodologies also have been put forwarded to be cognizant of recent approaches in sewer inspection techniques.

The paper is presented into six section. The preceding exploration on water quality monitoring has been specified in section II and sensor-based pollutant detection approaches in section III. The section IV investigates about earlier implemented sewer robotic systems whereas inspection methodologies and PMC survey report have been stated clearly in section V. All in all, the assessment of has been concluded in section VI.

2. Previous Art work on Water Quality Monitoring

Naturally, few water pollutants occur mostly such as heavy metals, nitrogen oxide etc. and few are formed during their chemical reaction with naturally occurring components in agriculture or pharmaceuticals industries. The given research clarifies about it.

R. Karthik Kumar et al. have developed a solar monitoring system by using wireless sensor networks to provide power supply to sensor network by using MATLAB [2]. Pradeepkumar M et al. introduced the architecture of

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IoT Based Smart Kitchen System

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ABSTRACT

In today's world fuel demand is increasing day by day. Liquefied Petroleum Gas (LPG) is the most used fuel in Kitchen. This is filled in a cylinder in liquid state. These cylinders blast sometimes, the main reason of cylinder blast is gas leakage. So, to avoid this we need to detect the leakage of gas. For this we need an automatic gas leakage detection system which detects leakage of gas and gives alerts. This type of automatic security system can save people from dangerous blasts and prevent accidents. Nowadays IOT (Internet of Things) is widely used in day-to-day life. There are many home appliances which are based on IOT thus it becomes easier to manipulate them. As we know the kitchen is the most important part of our home, but we also heard about the disasters happening in the kitchen due to various reasons and many people lost their lives. There might be various reasons behind the cause of these disasters but the main and mostly happens is due to the leakage of LPG gas from the cylinder. As LPG gas is highly inflammable gas, a small leakage of gas can be costly for human life. So, if we can detect these leakages of gas before it causes any serious issue then we might save many lives.

Keywords : MQ2 gas sensor, LM35 temperature sensor, Arduino, Node MCU ESP8266, GSM module

I. INTRODUCTION

In India LPG (Liquefied Petroleum Gases) is most used for the cooking purpose. In this paper we proposed a system for detection of leakage of gas which is based on IOT. This system is helpful to detect the gas leakage so that the action can be taken before it causes any hazardous issue. The system consists of a MQ2 gas sensor which will detect the leakage of gas. As soon as it detects the gas an alert message is send to the user, the LED will be on, the warning message is to be displayed on the LCD screen and exhaust fan will be automatically switched on. We have additional sensors which will continuously monitor the oxygen level and the temperature of the room.

3.3.1 Mechanical

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Improving the deposit efficiency of nano composite deposits on AZ91 magnesium alloy by using a suitable bath composition and operating conditions

Farook Sayyad [a, b] ✉, Rohan Senanayake [c]

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Abstract

The purpose of applying the nano-coating may be either decorative, functional, or a combination of both. The magnesium alloys specially AZ91 possesses great specific stiffness, less density, and electromagnetic protecting characteristics, which attracts the use of this type of material for several industrial parts. But the surface roughness and hardness is a major weakness of magnesium alloys, limiting their practical uses. Electroless nano-coating is one of the useful techniques for enhancement in these material characteristics. In this research, experimental analysis of various surface properties of magnesium alloy (AZ91) due to electroless nano-composite coating is investigated. The possibility of enhancing the efficiency and the properties of the composite depository material would be a valuable attempt, by finding a suitable chemical bath compositions and operating conditions of electroless nano-coating method. It has been detected that, as the concentration of titanium particles increases, the roughness value, hardness value, and corrosion property of coatings increases. The optimal value of the concentration of titanium particles TiO_2 is also explored for gaining better surface property after coating.

Keywords

Coatings; Nano Composite; Surface roughness; AZ91 Mg Alloy; Bath agi

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Experimental and Weight Optimization of Existing Steering Column

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Abstract - *Finite Element Analysis and parametric investigation of directing segment for new age vehicles to decrease or invalidate the controlling unit. The examination is completed regarding vibration. Stresses created in an article structure prerequisite at the joints, disfigurement in body because of vibrations, nonstop curving and stacking these are identified with steering rod. Symphonious examination will be giving us common recurrence of body that contrasted and consonant recurrence. Point of venture is to perform plan enhancement of steering rod to invalidate its capacities capacity issues related with stresses, deformation, vibrations additionally limit cost by sparing material to think about unique model. Design of existing steering column in CATIA software while static and topology optimization analysis in ANSYS software to determine stress, topology optimized model. FFT analyzer and Impact sledge will be utilized to perform trial modular investigation. Approval will be finished by looking at both exploratory and FEA results. Reasonable ends will be drawn and future degree will be recommended.*

Key Words: **Topology optimization, ANSYS, Static analysis**

1. INTRODUCTION

The car directing section is a gadget planned essentially for associating the controlling wheel to the guiding instrument. The controlling segment is basically a bolstered shaft that associates the driver's guiding wheel to the apparatus unit. The steering rodin the cutting-edge car is an unpredictable component. It is intended to crumple in an impact to secure the driver. In certain establishments it might be tilted and extended to put it at an advantageous plot for the driver. It additionally contains controlling apparatus and transmission locks. This frenzy stop will in general lift the travelers and driver from their seats and convey them into front of the compartment, except if they are made sure about with seat and shoulder belts. In a head-on crash, two impacts really happen. The first is the vehicle's crash with the item and the second is the inhabitants' impact with the instrument board and windshield in the front of the traveler compartment. In a head-on impact, the driver is tossed against the guiding wheel around one-hundredth of a second after the front of the vehicle starts to pound. The old-style directing segment is frequently driven into the driver as the front of the vehicle is fell. Effect engrossing controlling segments have been intended to fall their lower area instead of pushed back. The upper finish of these sections is additionally intended to assimilate the auxiliary effect of the driver hitting the wheel by crumbling. Collapsible controlling sections are a need in car vehicles. This is on the grounds that without the component, the controlling section would regularly pierce the driver once the vehicle encountered an adequate effect. When actualized, the directing section can assimilate the majority of the vitality got at the front of the vehicle in case of an accident. At its most fundamental level, the structure of the directing section has stayed unaltered since its origin; the segment despite everything comprises of a long shaft interfacing the controlling wheel to the vehicle's gearbox. The 'collapsible' structure presented an 'inward' and 'external' sleeve to the pole, with various steel course squeezed in the middle of every sleeve. A solid 'security gum' is utilized to bond the direction to the sleeves. When a particular degree of weight is surpassed, the uncommon sap breaks, permitting the sleeves to pack adaptively.

2. LITERATURE REVIEW

Imran J. Shaikhet al. [1]In this paper it executing vitality retaining controlling segment in the vehicle which assists with engrossing the effect experienced by the driver during the hour of crash requiring little to no effort. Vitality Absorbing Steering Column (Collapsible steering rod) is a sort of Steering Column which limits the injury of the driver during an auto collision by breakdown or breaking specific piece of framework. Collapsible steering rods are a need in car vehicles. This is on the grounds that without the system, the controlling section would regularly pierce the driver once the vehicle encountered an adequate effect. When actualized, the directing segment can ingest the vast majority of the vitality got at the front of the vehicle in case of an accident. This keeps the vitality of the effect from being moved totally into the driver. Collapsible vitality engrossing directing section can be viably utilized taking all things together landscape vehicle to give wellbeing to the driver. This framework is less expensive than the other security things like air pack and collapsible directing segment and the

Design and optimization of air compressor Crankshaft using FEA and strain gauge

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Abstract : Crankshaft strength is straightforwardly identified with its fatigue quality since it works under cyclic stacking conditions during working cycle. Crankshaft by and large outcomes in calamitous failure of the Reciprocating compressor. Examination on the fracture execution of the crankshafts have an incredible significance in car industry. The greater part of these examinations is focused on the filet region which is one of the geometrically most basic zones where stresses are concentrated. Design of existing crankshaft in CATIA software. Finite element analysis investigations were performed to acquire the variety of stress greatness at basic areas. Static analysis investigation will be done ANSYS workbench. Different fillet range will be explored for accomplishing ideal fatigue life. A current model will be figured out for testing and examination reason. Strain gauges will be utilized and entire arrangement will be mounted on UTM for utilization of single stacking cycle. Estimated strains will be approved with FEA strains. Result and ends will be drawn and reasonable future degree will be proposed.

Keywords—**FEA, UTM, Crankshaft, Fillet region.**

I. INTRODUCTION

Crankshaft is one of the most significant moving parts in internal combustion engine. It must be sufficiently able to take the descending power of the force stroked without over the top bending. So, the unwavering quality and life of internal burning engine rely upon the quality of the crankshaft to a great extent. Furthermore, as the engine runs, the force driving forces hit the crankshaft in one spot and afterward another. The torsional vibration shows up when a force motivation hits a crankpin toward the front of the engine and the force stroke closes. If not controlled, it can break the crankshaft. Quality estimation of crankshaft turns into a key factor to guarantee the life of engine. Pillar and space outline model were utilized to ascertain the pressure of crankshaft as a rule previously. The utilization of numerical simulation for the planning crankshaft helped architects to productively improve the procedure advancement staying away from the expense and impediments of incorporating a database of true parts. Crankshaft is a muddled nonstop structure. The vibration execution of crankshaft has significant impact to engine. Compressors are perpetually utilized for all applications requiring high weight air. Some of well-known utilizations of compressor are, for driving pneumatic apparatuses and air worked equipment's, shower painting, compacted air engine, supercharging surface cleaning, refrigeration and cooling, compound industry and so on compressors are provided with low weight air (or any liquid) at delta which comes out as high weight air (or any liquid) at outlet. Work required for expanding weight of air is accessible from the main player driving the compressor. By and large, electric engine, inner burning engine or steam engine, turbine and so on are utilized as central players. Compressors are like fans and compressors yet contrast as far as weight proportions. Fan is said to have pressure proportion up to 1.1 and compressors have pressure proportion between 1.1to 4 while compressors have pressure proportions more than 4. Crankshaft is the key segment in air compressor, which transmits power from main player to the cylinder.

II. LITERATURE REVIEW

Farzin H et al. [1] in this paper it presents the dynamic simulation concentrate on a crankshaft from a solitary chamber four stroke engine. They use pressure-volume graph to compute the heap limit condition in unique recreation model, and other simulation inputs were taken from the engine determination outline. The dynamic examination was done scientifically and was checked by simulation in ADAMS which brought about the heap range applied to crank pin bearing. This heap was applied to the FE model in ABAQUS, and limit conditions were applied by the engine mounting conditions. In this work investigation was accomplished for various engine rates and thus basic engine speed and basic area on the crankshaft were gotten. Stress variety over the engine cycle and the impact of torsional load in the examination are explored by creator, which shows results that strain gages appended to a few areas on the crankshaft. These outcomes demonstrate non-symmetric twisting weights on the crankpin bearing, while utilizing diagnostic strategy predicts bending worries to be symmetric at this area. From this examination specialists presume that the absence of evenness is a geometry misshaping impact, demonstrating the requirement for FEA modelling because of the generally mind-boggling geometry of the crankshaft.

Gul Cevik et al. [2] In this paper an examination of the impact of filet moving on fracture conduct of a ductile cast iron crankshaft utilized in diesel engine applications is finished by specialists. Break surface assessment was led perceptibly and by filtering electron magnifying instrument. Fracture perseverance limits estimated for un-rolled and moved crankshafts are 201 MPa and 811 separately, underscoring a critical exhaustion continuance limit improvement by filet moving procedure. This examination t Fatigue continuance limits for un-rolled and moved crankshafts which are 201 MPa and 811 MPa individually. It was seen t moving with 15 kN moving burden expands weakness quality of the flexible iron crankshaft utilized in this examination with

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Modal and harmonic analysis of beam subjected to transverse vibrations using FFT analyzer

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Abstract- The fundamental goal is to examinations the transverse vibrations of flexible rectangular beam of aluminum alloy and mild steel and to contemplate the significance of excitation on vibration reaction. The 3 D model of rectangular beams of aluminum alloy and mild steel will be drawn with the use of CATIA software. The exploratory testing was carried on FFT analyzer. The Modal and harmonic investigation was done with the assistance of ANSYS software. The relative investigation was done between the Analytical and test results. Subsequent to making the relative investigation result and end was drawn. Relative examination is performed dependent on the impact of varieties in the attributes of the beam on frequency and sufficiency of vibration for various endconditions.

Keywords—FEA, Modal analysis, FFT, beam

I. INTRODUCTION

A beam is an auxiliary component that principally opposes loads applied horizontally to the beam hub. Its method of redirection is fundamentally by twisting. The loads applied to the beam bring about response powers at the pillar's help focuses. The absolute impact of the considerable number of powers following up on the bar is to deliver shear powers and twisting minutes inside the beam, that thusly prompt inner anxieties, strains and avoidances of the bar. Pillars are portrayed by their way of help, profile (state of cross-area), balance conditions, length, and their material. Inside, beam exposed to loads that don't initiate torsion or hub stacking experience compressive, ductile and shear worries because of the heaps concerned them. Methods of disfigurement where the top substance of the beam is in pressure, as under a vertical burden, are known as listing modes and where the top is in strain, for instance over a help, is known as hoarding. Pillars are major models for the auxiliary components of many building applications and have been concentrated widely. There are numerous instances of structures that might be demonstrated with beam like components, for example, long range spans, tall structures, and robot arms, pillars just as the nearness of breaks in the auxiliary parts can impact the dynamic reactions of the entire structure; it can prompt the calamitous disappointment of the structure. To anticipate the Failure,vibration checking can be utilized to identify changes in the dynamic reactions as well as powerful attributes of the structure. Information on the impacts of breaks on the vibration of the structure is of significance. Effective strategies for the forward examination of crack beams are required. In this paper different methods or approaches that can investigate the vibration of pillars or structures with or without cracks. A promising methodology for building up an answer for basic vibration issues is given by a progressed numerical discretization plot, for example, limited component strategy (FEM). The limited component strategy (FEM) is the prevailing discretization procedure in auxiliary mechanics. The differential quadrature strategy (DQM) was first best in class by Bellman and his partners in the mid-1970s pointing towards offering an effective numerical technique for comprehending non-straight fractional differential conditions. The technique has since been applied effectively to different issues. in third request shear misshapening hypothesis free vibration of beam with various limit conditions isdissected.

II. LITERATUREREVIEW

Jong-Shyong Wu et al. [1] In this paper it presents some data in this regard of characteristic frequencies and typical mode states of a "persistent" tower, without reaching water (or "dry" tower), conveying a capricious tip mass having turning dormancy. The fractional differential condition of movement for the constrained vibration of the pinnacle, reaching water (or "wet" tower), exposed to help excitation is changed into a framework condition by utilizing the last regular frequencies and ordinary modes state of the openly vibrating dry pinnacle. It is accessible for the inland or seaward towers with versatile or fixed-bolster condition. For the inland towers, it is just required to set the mass thickness of water to be equivalent to zero (i.e., rw ¼ 0) and for the fixed-bolster towers, it is just required to set the solidness of both the translatory and rotationary springs to be equivalent to limitlessness(kT¼kR ¼ N). In principle, genuine unique reaction will happen when the excitation frequency oe of the outer burden approaches one of the normal frequencies of a basic framework or (r ¼ 1,2,3,y). For a pinnacle conveying an erratic tip mass with turning latency and exposed to flat help excitation, its most extreme even powerful reaction in versatile help condition is more noteworthy than that in fixed-bolster condition, on the grounds that the regular frequencies of a flexible help tower are littler than those of a fixed-bolster to war and the greatest

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Title

Design and Optimization of Air Compressor Crankshaft using FEA and Strain Gauge

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Abstract

Crankshaft strength is straightforwardly identified with its fatigue quality since it meets cyclic stacking conditions during working cycle. Crankshaft by and large witnesses a calamitous failure of the reciprocating compressor. Examination on the burning execution of the crankshafts have an incredible significance in car industry. The greater part of these examinations is focused on the fillet region which is one of the generally most basic zones where stresses are concentrated. Design of existing crankshaft in CATIA software. Finite element analysis investigations was performed to acquire the variety of stress greatness at basic areas. Static analysis investigation will be done ANSYS workbench. Different fillet range will be explored by accomplishing fillet fatigue life. A current model will be figured out for testing and examination reason. Strain gauges will be affixed and series arrangement will be mounted on UTM for utilization of single stacking cycle. Estimated strains will be approved with FEA strains. Result and ends will be drawn and reasonable future degree will be proposed.

Key Words

FEA, UTM, Crankshaft, Fillet region

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'Design and analysis of Tubular lower control arm for Macpherson strut suspension'

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Abstract—Lower control arm is an element of vehicle suspension. Lower control arm connects a vehicle body to its wheels and allows relative motion between them. A vehicle suspension assembly has got to provide a decent, smooth ride over pot hole or rough roads while ensuring that the wheels should remain in touch with the road surface and vehicle roll is minimized as desired. The suspension assembly is formed from three major parts: a structure which supports the vehicle's weight and provides structural stiffness, determines suspension geometry, a spring that converts kinematic energy to other form of energy or the other way around, and a damper which convert kinetic energy to heat form.

Lower control arm transfer all forces and moments coming in numerous directions from tire to the vehicle body. The linkages determines a number of the foremost important characteristics of a vehicle dynamics and handling. Control arm determines the wheel location and wheel angles and their relative articulation or motions. Variation in wheel geometry angles during suspension bump and rebound travel causes a change in tire forces, which also affect the vehicle's road holding and handling characteristics. The most weight of a suspension assembly arises from its linkages. Using heavy linkages in its construction decreases the ride quality, whereas light weight linkages, although improve ride quality, are costlier. Lower link weight comes under un-sprung weight of car. Un-sprung weight means un-sprung mass which has the mass of components like the wheel axles, wheel bearings, wheel hubs, tires and a little of the mass of drive shafts, springs, shock absorbers, and suspension links or control arms.

Keywords: Lower control arm, Suspension, Tubular arms, Stress, stiffness, comfort.

I. Introduction

When designing cars, attention is given to the comfort and safety of the passenger, therefore, the aim is to maximise comfort for passengers on uneven roads, improve wheel alignment with the paved surface, increase vehicle stability, reduce or completely remove the potential impacts of moving suspension elements within the body of the car. More of attention is given to reducing the mass of the suspension elements, but the suspension elements cannot lose their characteristics. Also, plenty of attention is focused to the car suspension system, which determines sturdiness & stiffness of the car, it has to balance the car when it rotates, stops and accelerates.

Control arm is one amongst the foremost important a part of the suspension assembly. Control arm is formed from the materials like steel, iron or aluminum. Suspension control arm is important part for every vehicle on the road. If control arm or linkages are not designed properly, there can be various issues such as undesirable vibrations, difficulties of driving irregularities that would sometimes cause to road accidents like collision with another vehicle or obstacle on road. Control arm assembly is fitted in numerous forms of suspensions like double wishbone suspension, Macpherson strut suspension, multi link suspension, trailing arm suspension. In Macpherson strut system, when tire is hit against any kerb or pot hole, the load is transferred from tire to body of vehicle by different load paths such as via lower control arm to subframe assembly, or via strut to body of vehicle. These loads leads for buckling failure and twisting of lower arm at ball joint locations or fatigue crack at critical section location or welding failure at bushes. To develop and do changes in existing design of control arm it is mandatory to concentrate on stress and deformation study of suspension control arm assembly. Various types of analysis is done on lower control arm such as durability analysis, NVH or modal analysis and crash analysis. Finite element approach is employed in such analysis.

II. Literature Review

Literature reviews conducted to study the lower control arm design fundamentals. In this various design of lower control arm were studied along with various forces comes on lower control arm during vehicle runing condition. Lower control are made from various materials. The material of lower control arm is selected based of forces coming on it along durability life expected.Control arm manufactuing processes are selected such tht they will give desired tolerances and process relibiity.Also in literature review various techniques of control arm weight, cost reducton was studied.

Hannes Fuchs, Richard Salmon, et.al. presents paper "Lightweight Mac Pherson Strut Suspension Front Lower Control Arm Design Development"

The objective of this project was to develop lightweight sheet metal and forged steel front lower control arm (FLCA) proof-of concept designs1 that achieve equivalent structural performance and function at a reduced cost relative to the baseline forged aluminum FLCA assembly. The current production OEM FLCA assembly was used to establish the baseline for package, performance, mass, and cost. The paper discusses the results of a study to develop lightweight steel proof-of-concept front lower control arm (FLCA) designs that are less expensive and achieve equivalent structural performance relative to a baseline forged

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Modal and Harmonic Analysis of Beam and Rotor Motor Assembly Subjected to Transverse Vibrations Using FFT Analyzer

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Abstract: *The fundamental goal is to examinations the transverse vibrations of flexible rectangular beam of aluminum alloy and mild steel and to contemplate the significance of excitation on vibration reaction. The 3 D model of rectangular beams of aluminum alloy and mild steel will be drawn with the use of CATIA software. The exploratory testing was carried on FFT analyzer. The Modal and harmonic investigation was done with the assistance of ANSYS software. Experimental and FEA analysis of rotor motor and coupling assembly along with design of final fixture to avoid the resonance of transverse vibration of setup assembly. The relative investigation was done between the Analytical and test results. Subsequent to making the relative investigation result and end was drawn. Relative examination is performed dependent on the impact of varieties in the attributes of the beam on frequency and sufficiency of vibration for various end conditions.*

Keywords—FEA, Modal analysis, FFT, beam

1. Introduction

A beam is an auxiliary component that principally opposes loads applied horizontally to the beam hub. Its method of redirection is fundamentally by twisting. The loads applied to the beam bring about response powers at the pillar's help focuses. The absolute impact of the considerable number of powers following up on the bar is to deliver shear powers and twisting minutes inside the beam, that thusly prompt inner anxieties, strains and avoidances of the bar. Pillars are portrayed by their way of help, profile (state of cross-area), balance conditions, length, and their material. Inside, beam exposed to loads that don't initiate torsion or hub stacking experience compressive, ductile and shear worries because of the heaps concerned them. Methods of disfigurement where the top substance of the beam is in pressure, as under a vertical burden, are known as listing modes and where the top is in strain, for instance over a help, is known as hoarding. Pillars are major models for the auxiliary components of many building applications and have been concentrated widely. There are numerous instances of structures that might be demonstrated with beam like components, for example, long range spans, tall structures, and robot arms, pillars just as the nearness of breaks in the auxiliary parts can impact the dynamic reactions of the entire structure; it can prompt the calamitous disappointment of the structure. To anticipate the Failure, vibration checking can be utilized to identify changes in the dynamic reactions as well as powerful attributes of the structure. Information on the impacts of breaks on the vibration of the structure is of significance. Effective strategies for the forward examination of crack beams are required. In this paper different methods or approaches that can investigate the vibration of pillars or structures with or without cracks. A promising methodology for building up an answer for basic vibration issues is given by a progressed numerical discretization plot, for example, limited component strategy (FEM). The limited component strategy (FEM) is the prevailing discretization procedure in auxiliary mechanics. The differential quadrature strategy (DQM) was first best in class by Bellman and his partners in the mid-1970s pointing towards offering an effective numerical technique for comprehending non-straight fractional differential conditions. The technique has since been applied effectively to different issues. in third request shear misshapening hypothesis free vibration of beam with various limit conditions is dissected.

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Effect of Nano Coatings on Magnesium alloy on their Surface Properties: A Review

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Abstract—

Magnesium (Mg) and its alloys have low specificity, specific hardness and electrical protection properties, attractive to the automotive industry, 3C (computer, communications, consumer electronics), military and aviation. Poor corrosion resistance is an important drawback of Mg alloys, limiting their active use. Nanocoating is one of the most effective ways to improve the resistance to poor corrosion quality. In this paper, the procedures for nanocoating the developed Mg alloys are now reviewed and discussed which point to a pathway for the preparation of anti-corrosion coatings by the incorporation of anorganic nano-particles into electroless coatings

Keywords—Coatings, Nanoparticles, Corrosion Resistance, Magnesium Alloy

I. INTRODUCTION

Magnesium and its alloys, with one quarter of the metal weight and only one-third of aluminum and anti-gravity strength beyond this, fulfill an acceptable role as a light weight alloy. Therefore, these alloys have obviously been a weight reduction option in portable microelectronics, telecommunications, aerospace and automotive applications. The magnesium-aluminum system has been in all the widely used magnesium types since these materials were introduced in Germany during its inception. World War.

The advantages of countless nickel learning coatings are: Deeply tested surfaces (e.g. using holes) can be well integrated using the welding process. It does not require current external gas for the compression installation. Unlike the electroplating process that results in excessive formation of aggregates at the edges and corners, electroless plating can produce more elastic binding on the entire surface of the shape complex. An electroless process can produce a coating that fit into the adhesive layer. Electroless process can produce coating which is homogeneous across the coating thickness. Electroless plated coatings are much better than electroplated plating, because the coatings are less porous and provide excellent corrosion protection to steel based substrates. Non-electronic covers can be fitted with airtight, non-commercial, complimentary, and non-conductive components. No complicated jigs or racks needed. There is a flexibility of metallicity and size. Chemical recycling can be monitored automatically and a sophisticated filtering method is not required. Matte, bright or bright lights can be found.

Due to the number of benefits, innumerable covers are widely used in all types of industries. Figure 1 shows the use of the nickel coatings. While it has many benefits, a few important parameters for a electroless plating are shorter lifespan of chemicals and higher costs for waste treatment due to faster chemical recycling.

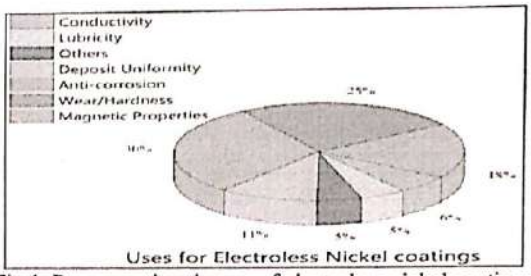

Fig 1. Rrepresenting the use of electroless nickel coatings (Source – home page: www.pfonline.com).

Most of these alloys contain 8-9% aluminum with small amounts of zinc [1, 2]. The addition of several composites such as aluminum, zinc and rare earth has been reported [3-10] to improve corrosion resistance, technically not satisfying the need for several applications. Therefore, the use of a surface engineering method is an appropriate way to promote corrosion resistance. Among the various high-tech techniques available for this purpose, nickel blending is of particular interest to the electronics industry, due to its mobility and many other engineering properties Electroless nickel is known for its durability and durability [11 - 16].

II. CORROSION PROTECTION STRATEGIES FOR MG ALLOYS

A coating method is typically needed to achieve a class A (Class A in automotive industry refers to the glossy, smooth appearance that is required for readily visible, outer surfaces of automobiles) quality of surface finish on Mg parts, as shown in Figure 2 [17].

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(13)

Influence of micro B_4C ceramic particles addition on mechanical and wear behavior of aerospace grade Al-Li alloy composites

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Abstract. Aluminum matrix composites are being widely used in aircrafts due to high strength to weight ratio, good tribological properties and better castability. The B_4C particles have low density, high hardness, high strength and stiffness. The poor wettability is major challenge during the fabrication of Al-B_4C composite. To overcome this problem, titanium based flux (K_2TiF_6) was used to improve the wettability. In this study, structurally efficient Al-Li 8090 alloy containing 2, 5 and 10 wt% of B_4C particles were fabricated by using modified stir casting technique with an objective to obtain homogenous dispersion of B_4C particles in the matrix. The microstructures evaluation was done to know the distribution of particulates in the matrix. The influence of particle volume content on the mechanical and wear behavior of composites has been investigated. The ultimate tensile strength, micro and macro hardness, high temperature hardness and wear characteristics have been investigated. Ageing behavior, XRD analysis and fractography of the composites has also been studied. The outcome of the experimental investigation revealed that, 2% B_4C particulate reinforced composite exhibits better mechanical, physical and tribological properties. 10% B_4C particulate reinforced composite shows clustering and agglomeration at some local regions causing a drop in the properties.

Keywords. Al-Li alloy; Boron carbide; Particle reinforced composite; Modified stir casting; Mechanical properties; Wear properties.

1. Introduction

Aluminium metal matrix composites (AMCs) are formed by incorporating hard ceramic particles in a relatively ductile Al matrix. These composites are a class of materials with an excellent combination of physical and mechanical properties to suit for aircraft structural applications [1]. Recently; Al–Li alloy matrix has received extensive attentions for aircraft structural applications because they offer high specific strength, low densities and higher strength to weight ratio as compared to conventional Al alloy matrices. It is widely used in aircraft applications such as skin and fuselage structures under tension [2, 3]. The aluminum matrix gets strengthened by incorporating hard ceramic material such as Al_2O_3, SiC and B_4C [4]. Boron Carbide (B_4C) has the excellent properties like high hardness, high neutron absorption capability, low specific gravity and higher value of elastic modulus (448 GPa); which help B_4C to be widely used as aircraft materials. B_4C is an excellent reinforcement material due to its better thermal and chemical stability. The B_4C is superior to the Al_2O_3 and SiC due to lower density (2.52 g/cm^3) and higher tensile strength (2.8 GPa) [5–7].

Various methods are available for the fabrication of particle/fiber reinforced metal matrix composites. These methods have capability of producing high quality microstructure material but disadvantage is the higher cost of production and improper distribution of particles in the matrix material. Stir casting method is a simple and economical route for fabrication of particle reinforced aluminum matrix composites [8, 9]. The major problem during the fabrication of Al/B_4C composite is the poor wettability between B_4C particles and molten alloy. It is important to have good wetting of the particles by the molten metal. Thus, the wettability between B_4C particles and molten alloy can be enhanced by adding titanium containing flux (K_2TiF_6) because titanium is the excellent metal which can be used to enhance the wettability between B4C and molten Al alloy [10]. Also, the improper dispersion of particles in the melt is also the major challenge during the fabrication of particulate composites. This problem is overcome by using proper stirring of the melt with optimized parameters to achieve homogeneous dispersion of the B_4C particles into the melt [11].

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REHABILITATION OF RC COLUMN USING FIBER REINFORCED POLYMER WRAPPING

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Abstract *- Rehabilitation is the process of repairing or modifying reinforced concrete structures to a desired useful condition. This project describes the operational steps for the structural assessment of reinforced concrete column. It discusses his classification of composite materials reinforcing systems for strengthening reinforced concrete structures such as shop manufactured and field manufactured structures. The project reviews the materials property requirements for design of reinforcing system to strengthen the reinforced concrete structures. It discusses the fiber reinforced polymer (FRP) reinforced concrete behavior that depends on flexural, shear, or axial failure. Surface preparation procedures for rehabilitation techniques of reinforced concrete structures using bonded FRP materials are also discussed. The project describes data recording and acceptances criteria for rehabilitation of concrete column with FRP sheet. Fiber reinforced polymer (FRP) sheet are very attractive for use in civil engineering application due to their high strength to weight and stiffness to weight ratio, corrosion resistance , light weight and potentially high durability .their application is most importance in the renewal of constructed facility infrastructure such as building bridge, pipeline, etc. Recently their use has increased in the rehabilitation concrete structures, mainly due to terrible performances characteristics, ease of application and low life cycle cost. These characteristics and success of structural rehabilitation measures have led to the development.*

Keywords: *Rehabilitation, FRP, Life cycle cost, strength, cost, failure, strength*

1. INTRODUCTION

In framed structures the Reinforced Concrete columns are consider as a load - bearing structure component. Cost of rehabilitation for RC beams is roughly less than that of rebuilding them because in present days, there are so many building which collapse fully or partially due to lake of maintenance, improper construction method and material or even due to earthquake. They need repairing to make them safe. Repair are always neglected or delayed by many people in most building owing to lack of awareness and financial ability and so it lead to major hazards. Hence it's needed proper repair and reconstruction application. FRP is a composite material made of a polymer matrix reinforced with fibre. The fibres are usually glass, carbon, aramid, and basalt.

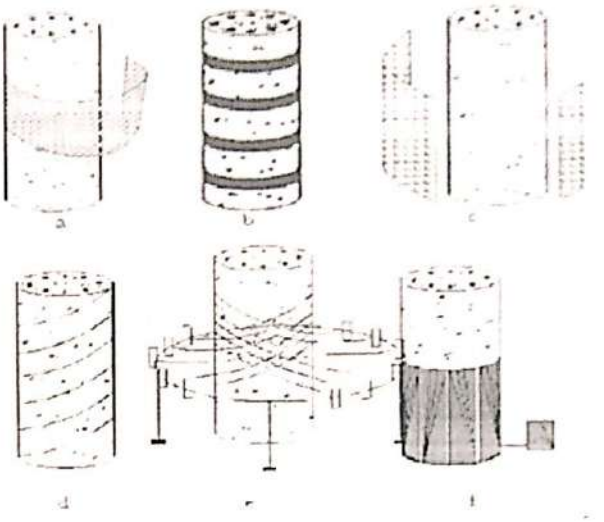

Fig. 1 FRP wrapping

During the latest decades fiber reinforced polymer (FRP) composite materials have proven valuable properties and suitable to be used in construction of new buildings and in upgrading the existing ones. These materials have covered the road from research laboratory and demonstration projects to implementation in actual structures. Nowadays the civil and structural engineering communities are about to commence the stage in which the use of FRP composites is becoming a routine similar to that of traditional material such as concrete, masonry and wood. FRP wrapping as shown in Fig.1

2. OBJECTIVES

i. To increase in strength of existing as well as old and worn out building by the application of FRP so as to either achieve the expected life or to increase the life of the structure.

ii. To check how much percentage of strength increases by using FRP sheet on concrete column.

iii. To check the compressive strength and flexural strength and compare with plane concrete column.

iv. To check the behaviour of column by using FRP wrapped sheet on plain concrete columns under axial loading.

v. Water tightness and increase the quality of structure.

vi. Increase durability and impermeability of column.

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Redevelopment of Slum with Special Emphasis on Low and Materials

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Abstract - *India is on an accelerated path of urbanisation but several Indian cities face the challenge of housing their growing population, especially the urban poor. Much of the population is forced to living in slum settlements, especially in large cities like Mumbai. Undertaking slum rehabilitation/redevelopment schemes (SRS) becomes essential for cities to improve housing conditions of the urban poor. However, the planning of such rehabilitation/ redevelopment schemes tends to focus on physical aspects while ignoring the social aspects, which in turn can affect the living environment and overall development of the community. This paper attempts to makes an evaluation of such SRS projects in Mumbai through a survey of the beneficiary slum dwellers to assess their effectiveness. The results indicate that social infrastructure at community level is not well integrated into the SRS project planning, thereby affecting the overall development and living environment of slum dwellers. Therefore, other Indian cities have to keep it in mind in the planning and design stage of SRS projects.*

Keywords: *Urban Poor; Mumbai; SRS; Physical infrastructure; Social infrastructure.*

1. INTRODUCTION

With an ever-increasing number of slums emerging almost daily across the metros in the country, it was imperative that the Government took prudent steps to check this occurrence. Due to unavoidable circumstances, the dwellers in these slums, lead an unhygienic lifestyle and have poor standards of living. Keeping this in mind, the Government of Maharashtra has brought an amendment to the Maharashtra Regional and Town Planning Act 56 and introduced a nodal agency Slum Rehabilitation Authority (SRA). SRA brought forth a Slum Rehabilitation Programme that analyses and reviews existing positions of slum areas in the city. The SRA then devises plans for rehabilitation of these identified slum areas and ensures that the slum rehabilitation scheme planned is executed to the best of SRA abilities. The Slum Rehabilitation Authority (SRA), in India enables property developers to rehabilitate slum-dwellers in-situ and compensates the landowner and developer by awarding them with the Transferable Development Rights (TDR)

Mumbai city is a large metropolitan city of India with a population of about 15 million. It has a population density of 30,000 persons/ sq. km, which is relatively very high. Housing such a large population is a major challenge for a city. Also, Mumbai's property is known to be one of the highest in the country as well as the world (DNA, 2016).Besides high population, the cost of housing unit/ property is very high in Mumbai due to the restrictive development control regulations that limit the development density to low levels Further, there are multiple regulations imposed on the development of land and housing in Mumbai, which restrict the housing options for citizens Mumbai city is a large metropolitan city of India with a population of about 15 million. It has a population density of 30,000 persons/ sq. km, which is relatively very high. Housing such a large population is a major challenge for a city. Also, Mumbai's property is known to be one of the highest in the country as well as the world (DNA, 2016).Besides high population, the cost of housing unit/ property is very high in Mumbai due to the restrictive development control regulations that limit the development density to low levels Further, there are multiple regulations imposed on the development of land and housing in Mumbai, which restrict the housing options for citizens The slum population in Mumbai city is as high as 55% due to the housing problem, especially for the urban poor who are forced to live in slum settlements. This has been highlighted in the recent India Urban Poverty Report (UNDP, 2009). Slum settlements in Mumbai are not a new phenomenon but they have been present historically for a very long time ever since industrialisation that peaked during 1960s. However, these slums are characterized by unhygienic and poor sanitation conditions; they are also vulnerable natural and manmade calamities. There is also a skewed occupation of slum units by male members, which results in low sex ratio in slums. Table 1 shows the resident population and sex ratio in slum and on-slum areas of Mumbai as per Census (2001).

2. LITERATURE REVIEW

1. SRA [2007]Slum Rehabilitation Scheme of Maharashtra, Slum Rehabilitation Authority (ARA), Government of Maharashtra, Mumbai.

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STRUCTURAL HEALTH MONITORING IN CIVIL ENGINEERING

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Abstract – *There is a phenomenal rise in construction activities in the field of civil engineering in the recent years. Major structures like buildings, bridges, dams and large trusses in industrial areas are subjected to severe loading and their performance is likely to change with time. It is therefore, necessary to check the performance of a structure through continuous monitoring by help of structural health monitoring. Structural Health Monitoring is a very multidisciplinary field, where a number of different skills (seismology, electronic and civil engineering, computer science) and institutions can work together in order to increase performance and reliability of such systems, whose promising perspectives seem to be almost clearly stated. The life of any structure can be increased by proper monitoring. This paper summarizes in brief the basic need of doing structural health monitoring in civil engineering.*

Key Words: *Structural Health Monitoring (SHM), deterioration, damage, maintenance, Wireless Sensor Networks, automated operational modal analysis*

1. INTRODUCTION

Observation of structural behavior is a very old discipline that has accompanied theoretical developments in structural mechanics since its origins (Benvenuto 1991), providing basic knowledge of physical phenomena and verification of computational procedures. However, in the last twenty years this discipline has also taken different roles, gradually becoming the basic tool for facing the so-called time-dependent safety problem (Mori and Ellingwood 1993) in civil engineering practice.

Structural health monitoring and damage identification are assuming larger and larger importance in civil engineering. Structural Health Monitoring (SHM) is defined as the use of in-situ, non-destructive sensing and analysis of structural characteristics in order to identify if a damage has occurred, define its location and estimate its severity, evaluate its consequences on the residual life of the structure.

Another important use of health monitoring is to estimate the service condition and the remaining service life of the structure. Recorded data for strain on supporting members of a bridge can be used to obtain vehicle weight (weigh-in-motion), vehicle count, environmental conditions such as wind load and temperature variations. These data in turn can be used to help estimate the structure's safety and reliability.

Knowing the integrity of the structure in terms of its age and usage, and its level of safety to withstand infrequent but high forces such as overweight loads, earthquakes, and fatigue is important and necessary. Because every year, India loses an average of 2,658 people to different kinds of structural collapses; that is around 7 deaths a day. 2011 saw the highest fatalities in ten years, 3161 deaths. Every year, India loses an average of 2,658 people to different kinds of structural collapses; that is around 7 deaths a day. 2011 saw the highest fatalities in ten years,3161 deaths.

2. LITERATURE REVIEW

Structural health monitoring is at the forefront of structural and materials research. Structural health monitoring systems enable inspectors and engineers to gather material data of structures and structural elements used for analysis. Ultrasonic can be applied to structural monitoring programs to obtain such data, which would be especially valuable since the wave properties could be used to obtain material properties.

These techniques are relatively quick, easy to use, and cheap and give a general indication of the required properties of the structures.

This approach may be used to assess the uniformity and relative quality of the concrete, to indicate the presence of voids and cracks, and to evaluate the effectiveness of crack repairs. It may also be used to indicate changes in the properties of concrete, and in the survey of structures, to estimate the severity of deterioration or cracking. Decreases in ultrasonic waves speeds over time can reveal the onset of damage before visible deficiencies become

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CONSTRUCTION MONITORING AND CONTROL FOR INFRASTRUCTURE PROJECT: A REVIEW

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Abstract: *Infrastructure Project delays adversely affect road and highway infrastructure development whereas; unfavorable consequences of project delays involve cost overrun, i.e. financial issues, contractual disputes as well as delays due to equipment / material issues. Despite these risks, delays are still a prevalent problem in construction management. The implementation of project management best practices is a dominant (in control) factor for the successful completion of any infrastructure project. This paper focuses on presenting a solution for the project delay issues as well as solution for the implementation of project management initiative in monitoring and control of infrastructure project. This study helps to forecast project performance periodically and propose solutions to minimize the schedule delays. Study focuses on projects where project completion in scheduled time is constraint.*

Key Words: ***Delay causes, delay factor, road and highways, systematic review, integrated solutions.***

1. INTRODUCTION

Infrastructure is a fundamental factor of the Global Competitiveness Index (GCI), so monitoring and control leads to identification of the issues regarding infrastructure project. Thus, finding solutions to those problems plays a vital role in the successful completion of infrastructure project. Significantly, project delays must be managed and mitigated before it grows and influences project cost performance. First step of mitigating delays is the identification of causes for proposing corrective actions. This paper seeks to answer the following questions: "What are the project management initiatives that are the most appropriate for engineering in monitoring and control of infrastructure projects?" To answer the researched questions, three objectives were set:

I. Identification of problem

II. Identify and mitigate the difficulty and fulfill the needs of the infrastructure project

III. Verification of the adaptability of tools and techniques proposed in the pilot project using focus groups.

According to Jalal and Koosha, applying project management (PM) knowledge to infrastructure projects and their project-driven organisation is inevitable for optimizing resources and increasing productivity. [Ref. 8]

This paper is organized as follows: In section 2, the literature review on project management improvement initiative that contributed to this review is presented. Section 3, presents the research Methodology used, Section 4, presents the research and discussion. Finally, section 5 presents the conclusion.

2. LITERATURE REVIEW

1. **Junyong Ahn et al [2011]** in this paper they have discussed about the requirement of fundamental changes in how projects are planned, developed, designed, monitored, controlled and constructed for success of complex transportation projects. This paper presents a successful bridge project to identify monitor and control techniques that were effectively used for project management. A case study for the Lewis and Clark Bridge Deck Replacement project was conducted to investigate techniques that were effectively used in this complex yet successful project. Effective tools for managing cost, schedule of the project, importance of public outreach, and usefulness of the public communication plan are some of the research findings.

2. **Nimesh Gujarati and Dr. B S Balapgol [2016]** This paper has addressed problems like schedule delays and cost overruns that are commonly faced in the construction industry. An in-depth study of the RCC work in a residential project in Pune was carried out by tracking the project on a monthly basis. It also points out differences between traditional project monitoring methods and the Earned value Management (EVM) method, which is one of the most effective project controlling and monitoring system. Cost Performance Index (CPI), Schedule performance Index (SPI), Earn Value, Planned Value, Actual Cost, Cost Variance and Schedule Variance are some of the topics briefly illustrated in this paper. This study finds out project performance periodically using EVM and Primavera as performance measurement tools and also aims at suggesting various alternative solutions by controlling techniques to bring back the delayed

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A REVIEW PAPER ON STUDY OF EFFECT OF RICE HUSK ASH (RHA) ON MECHNICAL PROPERTY OF CONCRETE

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Abstract -*One of the biggest obstructions in rural development is the lack of resources. Thus, they totally depend on the locally available alternatives. One of such alternatives is rice hush ash (RHA) which can be used as a replacement for fine aggregate in concreting of less important structures. The rice husk is an agricultural waste which is obtained from milling process of paddy and approximately 22% of the weight of paddy is rice husk. The waste is used as fuel in producing stream in parboiling process. The 25 % the weight of husk is converted into ash which is known as rice husk ash (RHA) and is again a waste which is disposed. This ash consists of amorphous silica which can be used as pozzolana in making concrete and cement instead of disposing it without compromising on the properties of cement or concrete if replaced in specific proportion with other constituents of cement or concrete. Aim of our project is to study various proportions of the mix design, so that a more feasible and optimum alternative for our conventional concrete can be mad.*

Key Words: **Rice husk ash, concrete, compressive strength, high temperature, SiO2**

1. INTRODUCTION

Rice husk ash (RHA) is an agricultural waste byproduct, and its disposal presents a major challenge by waste managers. India, China is the major rice producing country, and the husk generated during milling is mostly used as a fuel in the boilers for processing paddy, producing energy through direct Combustion and / or by gasification. About 20 million tons of RHA is produced annually by each Country. This RHA is a great environment threat causing damage to the land and the surrounding Area in which it is dumped. Lots of ways are being thought of for disposing it by making Commercial use of this RHA. In the present investigation, Portland cement was replaced by rice husk ash at various percentages to study compressive and flexural strength. To minimize the Environmental problem causes due to Rice husk ash so many experiments were performed, RHA used for constriction industry, fertilizer, insulation material, or fuel.

RHA from parboiling plants exerts critical environmental threat; thus, approaches for its reduction are urgently needed. RHA material is considered a real super pozzolan due to its richness in silica, the content of which is approximately 85–90%. With the emergence of high-rise buildings, fire prevention has become particularly important. In the event of a fire, the physical and mechanical properties of the aggregates of concrete structures and cement-gelled materials are degraded, resulting in a sharp drop in the load-bearing capacity of structures, which can even cause collapse of the building in serious cases. Therefore, the study of the mechanical properties of concrete under high temperature has great significance.

Normally, rice husk is piled in open air or occasionally discarded or burnt in the fields, which results in serious environmental pollution. The burning of rice husk can also cause fires. The highly active silica fume (SF) plays a significant role in the preparation of high-strength and high-performance concrete. However, because of the limited availability of SF, it is too expensive for many practical engineering applications. The use of highly active RHA to replace SF as the admixture for concrete can not only improve the performance of concrete and reduce costs, but also reduce the environmental pollution caused by rice husk.

RHA, the product of burning raw rice husk, has a greater content of SiO2 by more than 90 %. Compared with conventional mineral admixtures such as fly ash (FA) and slag, RHA has a huge specific surface area and high activity. which is preferable for active mineral admixture.

1.2 OBJECTIVE

1. Effect of Rice Husk Ash on workability.
2. Effect on Compressive strength of concrete.
3. Effect on flexural strength of concrete.

In this research work, methodology adopted to check the physical properties (workability, compressive and splitting tensile strength) of concrete at partial replacement of cement with RHA. For this reason, two types of concrete standard specimen's cube we have to cast in structural concrete and laboratory. Both types of specimens are cured at 7-, 14-, 28- and 56-days curing period. Three specimens at each W/C ratio and curing age are cast and tested for compressive and splitting tensile strength of concrete in Universal Testing Machine (UTM). Finally, the average of all three specimens at specific w/c ratio is taken as ultimate result of particular test.

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EFFECT OF VARIOUS ADMIXTURE ON STRENGTH OF CONCRETE

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Abstract – *Many scientists, engineers and technical representative have done vast research to improve workability, strength and durability of concrete. Many types of admixtures are used to gain the required result from the mix design i.e. to achieve the target strength. Different admixture have different uses some are water reducing, retarding, accelerating etc. Function of admixture depend on need. In this investigation we have used different PC based admixtures on M40 grade of concrete and then we conclude their behavior.*

Key Words: concrete, admixture, workability, compressive strength

1. INTRODUCTION

Concrete is a construction material made of cement, aggregate (fine and coarse), water and admixture.

Cement is chemically active material becomes reactive when mixed with water. Aggregate has no role in chemical reaction but plays important role in giving good resistance and strength to concrete. It also makes concrete durable.

In solid state concrete is like a rock whereas in plastic state it can be molded into any shape . it is very weak in tensile strength hence we use steel bars to resist tension force.

Advancement in concrete technology lead to use of admixture in concrete to gain the required strength. .

Function and behavior of each admixture depend on specific requirement for which it has being developed. Some are used to reduce water content some as retarding and accelerating etc and some have simply used for ease of addition in batching process.

Admixture is now a days essential component in concrete. Advancement in this technology has played a important role. The main purpose of admixture is to reduce the W/C ratio and increase the workability of concrete. The PC base admixtures has many benefits and advantages over conventional plasticizers.

Main type of admixture used in construction of building are super plasticizers, water reducing admixture, water proofing admixture.

2. LITERATURE REVIEW

"The European Guidelines for Self Compacting Concrete" define SCC and many of the technical terms used to describe its properties and use. They also provide information on standards related to testing and to associated constituent materials used in the production of SCC .Research scholars all over the globe have reported the need of admixtures in SCC .[1]

Ouchi et al (1997)have investigated the effect of super-plasticizer on the balance between flow-ability and viscosity of mortar in SCC.[2]

Mahmud et al. deduced that high-strength concrete (HSC) with a compressive strength of 80 MPa can be produced by the combined utilization of RHA and super plasticizer from the concrete age of 14 days onwards.[3]

Nehdi et al. concluded that depending on the rate of addition, RHA enhanced the compressive strength of concrete by up to 40% at 56 days .[4]

Ganesan et al. found that blended cement containing up to 30% RHA can be produced without adversely affecting the strength and permeability properties of concrete. Addition of RHA into concrete also causes significant enhancement to the durability properties of concrete.

Bouzouba and Fournier reported that the replacement of 7.5% to 12.5% of Portland cement with RHA significantly improved the resistance of the concrete to chloride-ion penetrability. At a higher proportion of replacement, it was reported that substitution of cement with up to 30% RHA resulted in enhanced strength and corrosion resistance, as well as a reduction in the chloride penetration and permeability of concrete. Rice husk ash (RHA)has been used as a highly reactive pozzolanic material to improve the microstructure of the interfacial transition zone between the cement paste and the aggregate in SCC. Research shows that the utilization of rice husk ash in SCC mix produced desired results, reduced cost, and also provided an environment friendly disposal of the otherwise agro-industry waste product.[5]

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DESIGN OF WATER DISTRIBUTION NETWORK(WDN) USING OPEN-SOURCE SOFTWARE

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Abstract - *Water supply system is a system of engineeredhydrologic and hydraulic components which provide water supply. Water is one of the basic necessities of every living being in the world. Water demand is increasing day by day.*

Water distribution network play vital role in preserving andproviding desirable life quality to the public, of whichreliability of supply is the major component. To solve this problem, design of new or up-gradation of existing water distribution network is necessary. Such type of problem can be solved manually as well as by using different computation technologies like LOOP 4.0, MIKENET, STANET and EPANET 2.0 software. This study is based on assessment of existing water distribution network using EPANET 2.0 software. The pipe network and junction network system are simulated to understand its behavior for different inputs using EPANET 2.0.

Simulation has been carried out for hydraulic parameters such as head, pressure and flow rate. The results obtained verify that the pressures at all junctions and the flows with them velocities at all pipes are feasible enough to provide adequate water by the network of the study area.

Key Words: *EPANET, Economic Efficiency, Water Supply System.*

1. INTRODUCTION

A water distribution system is a complex assembly of hydraulic control elements connected together to convey quantities of water from sources to consumers. The typical high number of constraints and decision variables, the nonlinearity, and the non-smoothness of the head—flow—water quality governing equations are inherent to water supply systems planning and management problems. Traditional methods for solving water distribution systems management problems, such as the least cost design and operation problem, utilized linear/nonlinear optimization schemes which were limited by the system size, the number of constraints, and the number of loading conditions. More recent methodologies employ heuristic optimization techniques, such as genetic algorithms or ant colony optimization as standalone or hybrid data driven—heuristic schemes. This book chapter reviews some of the more traditional water distribution systems problem algorithms and solution methodologies. It is comprised of sub sections on least cost and multi-objective optimal design of water networks, reliability incorporation in water supply systems design, optimal operation of water networks, water quality analysis inclusion in distribution systems, water networks security related topics, and a look into the future.

Distribution system costs within any water supply scheme may be equal to or greater than 60 % of the entire cost of the project. Design and analysis of pipe networks are important, because availability of water is an important economic development parameter. Water distribution system, hydraulic infrastructure consisting of elements such as pipes, tanks, reservoirs, pumps and valves etc. is crucial to provide water to the consumers.

1.1 AIM OF STUDY

To analyze the existing water distribution system and to suggest some measures if present network does not fulfil the future demand

1.2 OBJECTIVE OF STUDY

- To study the existing water supply network of ADYPU campus Lohegaon, Pune.
- To collect pipe report and junction report of existing network.
- To analyze the data by using EPANET software.
- To check the discharge & pressure head in existing Network

1.3 STUDY AREA

The study area opted is the AJEENKYA D Y PATIL UNIVERSITY CAMPUS, situated at Charholi (Bk), which is 07 km away from the PUNE Airport. And consists of 13 blocks. The Study area consists of very vast network of pipelines, pumps, storage facilities and other accessories which constitute the water distribution network of this area.

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SEDIMENTATION ANALYSIS OF DAM USING GIS TECHNIQUES

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Abstract - *Reservoirs are a vital source of water supply, provide hydroelectric power, support diverse aquatic habitat, and provide flood protection. Sediment deposition has gradually reduced the effectiveness of reservoir operation over the years and decreases in storage capacity. This research presents geographic information systems (GIS) based application for investigating sediment deposits of Khadakwasla Dam. Spatial data were collected from aerial photographs, bathymetric data, and satellite images corresponding to the study area. This research was performed in many stages as survey planning, survey execution and storage, data preparation and pre-processing, spatial data and attributes data creation, database building, and the results presentation and analysis. This method for assessment of reservoir sedimentation uses the fact, that the water spread area of reservoir at various elevations keeps on decreasing due to sedimentation. GIS technique gives us directly the water-spread area of the reservoir at a particular elevation on the date of pass of the satellite. This helps us to estimate sedimentation over a period of time. Traditional methods are inconvenient, expensive and time consuming. Since applying the remote sensing technique has a greater speed and precision compared to traditional methods. The purpose of the present study is to estimate the amount of suspended sediment in the dam basin using the remote sensing facilities and satellite images of powerful sensors in the field of water studies and then comparing the results with sediment data.*

Key Words: Geographical Information System (GIS), Sediment Deposition in dam, ARC-GIS software, Satellite Remote Sensing (SRS)

1. INTRODUCTION

A reservoir will generally be located towards the end of a large watershed and receive inflows from major rivers. On the other hand, reservoirs have a shorter residence time but a much larger watershed which can be more difficult to control. Therefore, capacity surveys are important for proper allocation and management of water in a reservoir. Knowledge about the quantum of sediment and its deposition pattern in various zones of a reservoir is very essential to assess the balance life of reservoir. In view of this, systematic capacity surveys of a reservoir should be conducted periodically. Using the Remote Sensing techniques, it has become very efficient and convenient to quantify the sedimentation in a reservoir and to assess its distribution and deposition pattern. Remote Sensing technology, offering data acquisition over a long period of time and broad spectral range, can provide synoptic, repetitive and timely information regarding the sedimentation characteristics in a reservoir. Reservoir water spread area for a particular elevation can be obtained very accurately from the satellite data. Reduction if any, in the water spread area for a particular elevation indicates deposition of sediment at that level. This when integrated over a range of elevations using multi-date satellite data enables in computing volume of storage lost due to sedimentation.

The flow of river brought sediment particles originate from soil erosion processes in catchment. When this flow of water is stored in reservoir, sediment settles in reservoir which results in the reduction of storage capacity, cover fish spawning grounds, clog drainage canals and passage and reduce downstream water quality. Hence estimation of sediment deposition becomes very important for river morphology, conservation planning of water and soil, design of erosion control structure and proper management and working of reservoirs. Certain Conventional methods such as, hydrographic surveys, inflow and outflow approaches, are used for estimation of reservoir sedimentation. But these methods are inconvenient, expensive and time consuming. So simple methods should be developed, which is less time consuming and economical.

Reservoirs offer many benefits to the communities including flood control, water supply, fish, and hydropower. Determining the impacts of sediment on the reservoir operations is critical to maintaining current operations and planning for future needs. Sedimentation within the reservoirs is the main problem that could reduce the reservoir capacity and therefore affecting its economic life. Proper management of the reservoir requires that current reservoir volumes and sedimentation rates be determined. Current trend towards a more efficient management of reservoir is using the application of Geographical Information System (GIS). The geographic information system (GIS) is used for importing, analysing, modelling, visualizing, and reporting information for the reservoir and gives functionalities of spatial data management, mapping and analysis to assist decision- making.

1.1 Area of Study

Pune is the ninth popular city in India and the second largest in the state of Maharashtra after the state capital Mumbai. The district covered geographical area is 16642sq.km. It is located in the west part of the State and East bank of the Mutha River. Khadakwasla is the village

Challenges and Solutions for Facility Management in Housing Societies

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Abstract: **The study focuses on the challenges faced in facility management (FM) by the housing society of 900 flats with 4000 residents and their solutions FM is essential however it is perceived as an evil and unnecessary activity. FM is a job delegated to persons with no knowledge of basics and treated as secondary task. Discussions were held with various stakeholders of housing society to understand the issues and arrive at the solutions. The research papers on the FM were perused to understand the FM in housing societies prevalent in the environment. The records and documentations were found to be lacking in the society. Digitization of data is non existent which prevent implementation of building information modelling (BIM). BIM is enabler for FM in the present environment considering the fast pace of information age. The awareness level of the residents in the FM in and around the city is alarmingly low which is causing loss of hard earned money as is evident from the fact that the society has not yet installed roof top solar photovoltaic grid connected system thereby causing loss of about 5 lakhs rupees per month. The strategic FM which will encompass BIM is found to be the solution for the society.**

Keywords: **Facility management, building information Modeling, Digitization, Built drawings.**

1. Introduction

The Facility maintenance (FM) of residential housing society is complex task which comprises from day to day work to taking decisions impacting quality life of residents in complete lifecycle of the facility. The task becomes complex by virtue of different perceptions of the members residing in the housing society. Facility Management is defined as a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and new technology as well. It is the integration of above elements which pose challenge. However Facilities management services in India have been growing steadily over the years and are set to witness significant momentum over in coming years. It is observed that facility management services have few organized players and mostly unorganized small operators. There is tendency in housing societies to delegate the job of FM to unprofessional who are not qualified for undertaking this specialized and multidisciplinary activity. Facilities management business is largely unorganized in India and operates on low margins due to assigning low priority being accorded to it. Besides facilities management services are primarily concentrated in and around metros with low penetration in Tier II and Tier III cities. FM is essential however is considered as evil and non significant activity. However out that FM has been frequently considered a discipline primarily focused on maintenance services for organizations' buildings and other physical resources that are generally provided from a cost cutting perspective FM "shapes the business, not just supports the business". Thus, a strategic approach to FM should be introduced (Tucker and Pitt, 2009) converting challenges into opportunities. The residential complexes constructed in years before 2005-06 where the drawings were in the form of blue prints and not in auto cad pose additional challenges. Thus in absence of digital data the management of information becomes challenging. The reactive FM was observed in the housing society rather than proactive one. Building Information System (BIM) is one of the most prominent initiatives frequently addressed by scholars and practitioners as a game changer in construction industry in general and FM in particular. In order to fully reap the benefits of BIM in FM, however, further research is required. It will be an endeavor in this paper to investigate the challenges against successful implementation and realizing the benefits of BIM in FM.

2. Methodology

A. The two prong strategy of survey with the residents and literature survey were adopted for understanding the challenges of FM in housing societies and thereby arriving for their possible solutions

B. The discussions were done with number of residents of huge residential society in Pune which has 900 flats and population of approximately 4000 persons. The society office persons and management committee members were interviewed for their valuable inputs. The main observation is the lack of digital data which prevents in adopting BIM approach for FM. The following issues are identified as challenges for maintenance of the huge residential complex

1) Land Records

The drawings are in the form of physical copy which are scattered and have become dilapidated. The files are maintained in haphazard manner and not properly docketed. The data

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Design of Net Zero Energy Building

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Abstract *– A zero-energy building, also known as a zero net energy (ZNE) building, net zero energy building (NZEB), or net zero building, is a building with zero net energy consumption, meaning the total amount of energy used by the building on an annual basis is roughly equal to the amount of renewable energy created on the site. These buildings do not increase the amount of greenhouse gases in the atmosphere. The wording "Net" emphasizes the energy exchange between the building and the energy infrastructure. By the building-grid interaction, the Net ZEBs become an active part of the renewable energy infrastructure. Zero net energy (ZNE) has unprecedented potential to transform the way buildings use energy. This ultra-efficiency goal is one that owners can define, design teams can reach for and occupants desire. An increasing number of buildings are meeting this standard, raising confidence that a ZNE goal is realistic given current building technologies and design approaches.*

Keywords. *– Net zero energy building, Energy plus buildings, Near zero energy buildings, Energyreduction strategies, Zero net site energy use, Zero net source energy use, Net zero cost, Net off site zero energyuse.*

I. INTRODUCTION

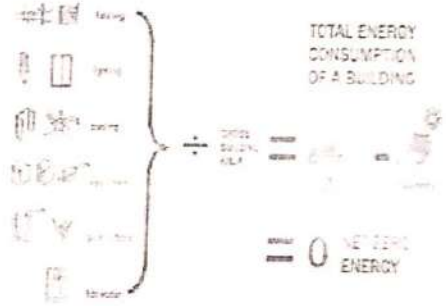

Fig. 1: Net zero energy

Buildings that produce a surplus of energy over the year may be called "energy-plus-buildings" and buildings that consume slightly more energy than they produce are called "near-zero energy buildings" or "ultra-low energy houses". Zero net site energy use: In this type of ZNE, the amount of energy provided by on-site renewable energy sources is equal to the amount of energy used by the building. In the United States, "zero net energy building" generally refers to this type of building.

Zero net source energy use: This ZNE generates the same amount of energy as is used, including the energy used to transport the energy to the building. This type accounts

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DESIGN OF SEWAGE TREATMENT PLANT (STP) FOR WAGHOLI CITY PUNE MAHARTASHTRA

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Abstract– Wastewater treatment is a process used to remove contaminants from wastewater or sewage and convert it into an effluent that can be returned to the water cycle with acceptable impact on the environment, or reused for various purposes (called water reclamation). The treatment process takes place in a wastewater treatment plant (WWTP), also referred to as a Water Resource Recovery Facility (WRRF) or a Sewage Treatment Plant (STP) in the case of domestic wastewater. Pollutants in wastewater are removed, converted or broken down during the treatment process.

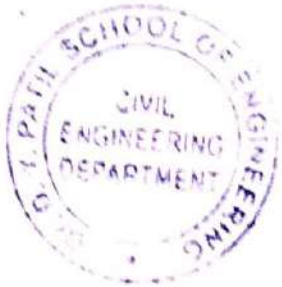
The main objective of this project is carried out to design of sewage treatment plant for a Wagholi city municipality, because it has a developing place due to steady increasing population, which in a results excess of sewage is produced. To avoid this problem, to construct the sewage treatment plant. This project focus on sewage generation in wagholi city considering the population of next 30 years.

Keywords - Physicochemical parameters; sewage treatment plant; wastewater collection; designing.

1) INTRODUCTION

The objective in wastewater treatment is to provide a low- cost process that is reliable meeting effluent quality standards. The contaminants in wastewater are removed by physical, chemical, and biological means. The individual methods usually are classified as physical unit operations, chemical unit processes, and biological unit processes. These operations and processes occur in a variety of combinations in treatment systems, it has been found advantageous to study their scientific basis separately because the principle involved do not change. Traditional design procedures for wastewater treatment systems attempt to minimize total capital cost by considering steady state concepts for unit processes and design guidelines. Sewage treatment is the process of removing contaminants from waste water primarily from house hold sewage. Physical, Chemical & Biological process are used to reduce contaminants & produce treated waste water that is safe for environment. A by-product of sewage treatment is usually semi solid waste or slurry called as sewage sludge. The sludge has to under-go further treatment before being suitable for disposal or application to land. Sewage can be treated close to where the sewage is created, which may be called as decentralized system. The treatment process has a series of treating units which are categorized under primary treatment, secondary treatment & tertiary treatment. The primary treatment removes suspended & floating solids of raw sewage. It includes screening to trap solid objects & sedimentation by gravity to remove suspended solid. Primary treatment can reduce the BOD of the incoming waste water by 20-30 % & TSS by some 50-60 %. Primary treatment is the first stage of the sewage treatment. The secondary treatment removes the dissolved organic matter that escapes primary treatment. Secondary treatment is typically performed by indigenous, waterborne micro-organisms in the managed habitat. It requires a separation process to remove micro –organisms from treated water prior to tertiary treatment. The tertiary treatment is sometimes defined as anything more than primary & secondary treatment in order to allow ejection into highly sensitive ecosystem. The tertiary treatment can remove more than 99% of all the impurities from sewage.

2) Location Of Area



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Assessment for Water Quality of Mutha River using Correlation

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ABSTRACT

A river is a natural flowing watercourse, usually freshwater, flowing towards an ocean, sea. Mula-Mutha river is one of the major river of Pune city. Mula originates from Mulshi dam and it passes through Poud, Lavasa, Wakad, Balewadi, Baner, Aundh, Khadki, Vishrantwadi, and ends at Sangamwadi. Monitoring of river involves comparison of water quality data between stations, analysis of water quality trends, development of cause-effect relationships between water quality data and environmental data. Present work deals with the analysis of physico-chemical parameters of Mutha river i.e from Khadakwasla Dam to Sangam Bridge. Water samples are collected from four locations. Water quality assessment is carried out by "correlation coefficient (r)"is determined using "correlation matrix" to identify the highly correlated and interrelated water quality parameters. The study involves certain physico-chemical parameters such as dam pH, Turbidity, Electrical Conductivity, Hardness, Alkalinity, BOD, COD, TDS and correlation between them.

KEYWORDS: Pollution, Mula-Mutha, BOD, COD, Correlation

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INTRODUCTION

Due to urbanization industrialization has increased during the past decades and this gives rise to many enviournmental problems .Pune which is situated at the confluence of Mula-Mutha river. Increased industries, river side housing socities has increased the amount of pollution in the river.

The crowding of population in urban area is a major cause of polluting the River Mutha. The urban city accelerate more pollution to the River Mutha due to the inadequate urban waste management, poor sewage water management by industries.

Water pollution is the contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater). Water pollution is one of many types of pollution which results from contaminants being introduced into the natural environment.

Water pollution is often caused by the discharge of inadequately wastewater into natural bodies of water. This can lead to environmental degradation of aquatic ecosystems. The report is dealing with the current worst status of river by various means.

Therefore, in recent years an easier and simpler approach based on statistical correlation, has been developed using mathematical relationship for comparison of physico-chemical parameters. we have assessed the water quality characteristics of River mutha from khadakwasla to sangam bridge, studied the Physico-Chemical characteristics of mutha river by using correlation.

METHODOLOGY

For assessment of water quality 2 sampling locations were selected for month October and November 2019 i.e Khadakwasla Dam and Sangamwadi Bridge. The 4 sampling stations i.e Khadakwasla Dam, Nanded City, Deccan, Sangam Bridge were selected for month January and February 2020. The samples were collected and stored in plastic bottles ,the bottles were rinsed and cleaned before collection, the bottles were labeled properly for identification .The samples were analyzed for 8 physicochemical parameters such as pH, Turbidity ,Electrical Conductivity, Hardness, Alkalinity, BOD, COD, Total dissolved solids.

The pH was measured with pH Meter. Turbidity was measured with the help of Nephlometer. The Electrical Conductivity was measured in lab with the help of digital Conductivity Meter; the conductivity was calibrated using 0.1N KCL solution. Hardness was determined by titrating the sample with EDTA solution. Alkalinity is mainly due to bicarbonates, carbonates, hydroxides and alkaline earth metals. It is expressed in terms of Hydroxide Alkalinity, Carbonate Alkalinity, Bicarbonate Alkalinity. The sample is titrated against 0.02 N Sulphuric acid, the indicators used are phenolphthalein and methyl orange. BOD was calculated as the difference between the initial DO and after incubating the sample for 5 days at 20 0C. COD was determined by

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Making a Construction Project More Efficient using Clash Detection Tool of Building Information Modeling

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Abstract - *This review paper summarizes how Building Information Modeling (BIM) has emerged as a highly efficient solution for information management in the Architecture, Engineering, and Construction (AEC) industry. In the Indian construction scenario, most of the projects are still using a 2D CAD drawing for their design and execution purpose. These 2D drawings have a lot of limitations during execution like miscommunication, misunderstanding, and time-consuming, etc., This type of errors will be reduced while using BIM process. Clash detection tool is an application of BIM which is used for the coordination of building systems within 3D building models. This review paper gives a brief idea about how effective clash detection in BIM is and it focuses on the methodology involved in conducting clash detection analysis using Building Information Modeling software. Also, this tool is used in foreign countries due to its efficiency in improving the construction work. This work also involves finding out, how this clash detection tool helps to optimize the cost and time for the construction using BIM Coordination. The benefits and drawbacks of 4D BIM model were discussed. In this study, commercial software such as Autodesk Revit 2018, Autodesk Navisworks Manage 2019 are used. It also focuses on the process of simplifying and standardizing the process of Clash Detection using Autodesk Navisworks. The researchers have unanimously found that total cost of the project will not be increased and surety of completion of the project on time avoids overruns by using clash detection.*

Key Words: AEC Industry, Building Information Modelling, Clash Detection, Autodesk Navisworks, Autodesk Revit.

1. INTRODUCTION

For the last few years in the construction industry, the complexity of modern-day construction projects has increased. And no significant improvement in the productivity of the construction industry has been observed. The productivity of the construction industry has traditionally been much lower than that of other industries because the main reason for this shows to be the incapability of new technologies. As other industries have improved their productivity by using new modified methods and techniques. The construction industry is also applying new technology such as Building Information Modelling (BIM) to assist better the productivity of Construction Project Management.

A BIM consists of 3D models of the project with links to all the required information connected with the projects planning and construction or operation. BIM is a 3D modelling which involves 4th dimension as time (4D), 5th dimension as cost (5D) and information database of the project. 6th dimension is related to Energy, Efficiency, Sustainability (6D) & 7th dimension is related to Facilities Management (FM)(7D).

The National Building Information Modelling Standards (NBIMS) committee of US defines BIM as, "a digital representation of physical and functional characteristics of the facility. A basic premise of BIM is the collaboration by different stakeholders at different phases of the life cycle of a facility to insert extract, update or modify information in BIM to support and reflect the roles of that stakeholder".

Fig -1: Clash detected between a beam and HVAC duct.

2. CLASH DETECTION

Clash detection remains the primary requirement of any multidisciplinary project wherein composite design needs to be inspected for the identification of clashes. Clash Detection is the method of inspecting and identifying the various interferences which frequently occur in the coordinating process of 3D models created in different modern softwares like Revit Architecture, Revit Structure & Revit MEP. In BIM, 3D models of different types such as Structural, Civil, Architectural & MEP (Mechanical, Electrical & Plumbing) are produced. After combining all these different types of models to create a complete BIM model there will be chances of clash between these elements.

In clash detection test it detects the conflicts between different elements within 3D Building Information Model before actual construction starts, and therefore time optimization in the construction schedule, reduce costs and

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Erosion Control of Slopes Using Paddy Straw Geomesh

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Abstract:
Erosion of newly constructed embankments due to rainfall is a regular phenomenon in which the raindrop impact leads to the disintegration of the embankment soil particles, slowly leading to slope failure. One of the erosion control measures includes market-established erosion control products made up of jute and coir. These products are useful but cost-prohibitive. Therefore, to provide a low-cost alternative for erosion control of newly constructed slopes, a handmade Paddy Straw Geomesh'6PSG-12' (6 referring to its thickness in mm and 12, referring to its 12 mm x12 mm aperture size) is indigenously developed. The field tests for estimating erosion control capabilities are cost-prohibitive and time-consuming; the various erosion control products are tested on a bench-scale level before field tests [1]. Hence, the quantification of Erosion is done using the Bench scale (laboratory) test, and validation is done by field test [2] [3]. The proposed 6PSG-12 genomes used in the present work for erosion control satisfy all required properties, viz. tensile strength, durability, etc.

'Bench-scale testing' of 6PSG-12 specimens is carried out under a 'Simulated rainfall' of known intensity using in-house developed 'drip' type 'Rainfall Simulator' (RS). The simulated rainfall is made to fall on a 'bare slope' and a 'slope covered with PSG.' The test results show that the 6PSG-12 specimens effectively control the Erosion of slope made up of 'Well-graded gravel with sand' to the extent of 91.29 %, under the simulated rainfall of intensity 130 mm/hour for 30 minutes. The erosion control products made with other natural materials like Jute, Coir, and Paddy straw are difficult to compare with each other; since these perform under different environmental conditions. Still, the erosion control efficiency of Paddy Straw 6PSG-12 Geomesh is found to be 91.29%, which is comparable with 'Jute mesh' and 'Coir net,' reported as 92% and 90%, respectively [4]. The 'Effective cover factor' of Paddy Straw Geomesh (i.e., the ratio of 'soil loss on the protected slope' to the 'soil loss on the unprotected slope') works out 0.089, which is also encouraging.

Keywords: *Paddy Straw Geomesh (PSG), Newly constructed embankment, Rainfall simulator, Laboratory scale plot, Simulated rainfall, Drop size distribution, Erosion*

I. Introduction

The Erosion of a newly constructed embankment, especially due to rainfall, is a common phenomenon in which the raindrop impacts dislocate the embankment soil particles. The accumulated runoff causes gully and reel erosion. It finally results in the transportation of soil sediments, seriously endangering the stability of the embankment. Such Erosion is controlled using Rolled Erosion Control Product (RECP), made from natural fibers like jute, coir in different forms, like woven and non-woven meshes and blankets. Such protection is necessary for the first rainy season only, as vegetation grows on the embankment in a few months, protecting the slope from Erosion in due course of time.

Although established, jute and coir erosion products possess certain disadvantages like being cost-prohibitive and possessing excessive durability. This is overcome through this work by developing a handmade 'Geomesh' using abundantly and almost freely available material 'Paddy straw.' It is also pertinent to note that the manufacturing cost of paddy straw geo mesh 6PSG-12 is as low as Rs.68/-per sq. m, as compared to Rs.120/-sq. m., for jute, and Rs.100/sq. m., for coir mesh type similar erosion control products. Hence, 6PSG-12 shall prove to be the alternative low-cost erosion control product possessing adequate required durability in just half of the cost.

Suresh Kumar et al. (2019)[5] have observed that around 23 million tonnes of paddy straw are burnt annually in the state of Punjab, Haryana, Uttarakhand, and Western Uttar Pradesh), adding huge quantities of pollutants to the atmosphere. Therefore, the Paddy Straw Geomesh would be useful not only for controlling the rain-induced Erosion of slopes of the newly constructed embankment; but also for preventing air pollution due to its burning as a conventional mode of paddy straw disposal.

Various Index properties of Paddy'Straw Geomesh (6PSG-12) viz. Tensile strength, 'Drapability' and 'Durability' for its usage as erosion control material are found out after testing in accordance with respective & appropriate code/s (Halkude, S. A. and Katdare, 2014[6]; 2015a[7a], 2015b[7b]). The properties of 6PSG-12 Geomesh are found satisfactory and conform to the required standards and are shown in Table 1.

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Troll Detection and Anti-Trolling Solution using Artificial Intelligence or Machine Learning

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ABSTRACT

With the increase in usage of social media platforms, bullying and trolling has burgeoned proportionately. The sole reason for this is that there is no surveilling authority on these platforms. To add to that, anonymity protects the identity of these bullies. Anyone from kids to teenagers to adults can fall prey to trolling. This paper focuses on using AI/ML algorithms to invigilate and report such bullies and further take actions depending on the severity of the threat imposed by them. We will be introducing lexical, aggression, syntactic and sentiment analyzers to examine a tweet and determine if it was meant to be a troll or not. The output of these analyzers will be then fed to classifier algorithms such as Naive Bayes algorithm, K-mean, to segregate these tweets based on their toxicity rating.

Keywords : Social Media; Antisocial Behaviour; Troll Detection

I. INTRODUCTION

In recent years social media has been adopted in various countries by the general publicand also by companies. Additionally, "being social", in contrast to "being a troll", has been shown to be vital for the standard of human interaction within the digital sphere; this attitude is often assessed in different ways. A troll remains private with an antisocial behavior that incites other users acting within an equivalent social network. In particular, a troll often uses an aggressive offensive language and has the aim to hamper the normal evolution of a web discussion and possibly to interrupt it. Only recently has it been possible to pay proper attention to the present problem, in order that many renowned press bodies and magazines have begun to address the difficulty and to write down articles both on the overall description of the phenomenon and on particular events that have caused a stir, favored by the increasing occurrence of behaviorsjust like the one described above. This type of behavior isn't fully characterized and, up to now, it's been difficult to seek an accurate description for the word "troll", since the act of trolling is strongly subjective. The shortage of an agreed-on definition for the term "troll" has resulted in poor comprehension and in low interest for the research community. The necessity for

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Training an AI agent to play a Snake Game via Deep Reinforcement Learning

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ABSTRACT

Deep Reinforcement Learning (DRL) has become a normally adopted methodology to alter the agents to be told complex management policies in varied video games, after Deep-Mind used this technique to play Atari games. In this paper, we will develop a Deep Reinforcement Learning Model along with Deep Q-Learning Algorithm that will enable our autonomous agent to play the classical snake game. Specifically, we will employ a Deep Neural Network (DNN) trained with a variant of Q-Learning. No rules about the game are mentioned, and initially the agent is provided with no information on what it needs to do. The goal for the system is to figure out the rules and elaborate a method to maximize the score or reward.

Keywords: Deep reinforcement learning, Snake Game, Autonomous agent, Deep Learning, Experience replay

I. INTRODUCTION

One of the most well-known models of Reinforcement Learning used for playing games is called TD-gammon [1] which was developed decades ago. It was used to play the Backgammon game and it surpassed human-level performance. However, this technique shows very little generalization to different games and failed to attract wide attention. As a recent breakthrough in deep learning, DeepMind creatively combined deep learning with reinforcement learning and came up with the distinguished deep Q-learning network (DQN) model [2]. DQN outperforms all the previous approaches on six games and surpasses human-level performance on 3 games. This breakthrough lit up researchers' passion and lots of similar researches (e.g., [3, 4]) presently emerged.

However, DQN might not be straightforwardly applied to any or all scenarios as a result of its naïve reward mechanism solely produces thin and delayed rewards which will cause ineffective learning of correct policies [5]. In most reinforcement learning problems, to decrease the correlation of sampled experiences when training the network, a technique named Experience Replay is usually adopted [6]. However, this method samples previous experiences haphazardly while not considering their quality. To solve this downside, an improved approach was proposed by Schaul et al. [7] namely "Prioritized Experience Replay".

In Reinforcement Learning, we have two components: The Environment and The Agent. Every time the agent performs an action, the environment provides a reward to the agent, which might be positive or negative that depends on how smart the action was from that of the specified state. The goal of the agent is to find what actions will maximize the reward, according to the possible state. States are the observations that the agent receives at every iteration from the environment. A state may be its position, its speed, or whatever array of variables describes the environment. The Reinforcement Learning notation that is used for the decision-making method that the agent adopts is termed as policy. On a

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Crime Awareness and Registration System

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ABSTRACT

The Crime rate has always been very high in India. Country has been on top in list for most of the years. The most relevant reason of such crime rate is slow judicial process and absence of knowledge in field. Many of the crimes can be prevented or reported early with an efficient user friendly system. The perspective of citizens about the judicial system and police has not been so good or falsely understood. Many of the cases do not get registered for above reasons. The reachability is poor as well as do not work for everyone. Records can be easily destroyed or fabricate. Law and rules are not known by everyone in this country and in many of the cases victim does not know that they have been accused or any criminal activity is happening around them this absence of knowledge leads to increase in crime but decrease in registering complaints. Hence crime happens which damages the society and we may not be able to overcome the situation because of absence in records and knowledge. We can overcome this gap using an efficient user friendly system which allows us to know about crimes around us and help us to file complaint of crime easily. A platform for both user and authority to connect with each other.

Keywords: Machine learning, Neural networks, IPC, Chatbot.

I. INTRODUCTION

This system has static and dynamic behaviour as most of the system the registration and filing complaint part is static where we do not need any other mathematical computation to provide these services. Where steps are predefined and data goes through the fixed number of stages and either accept or reject the request. But system also contains a Chatbot which is as important as the other static systems. Core function of system is to handle crime related queries and respond with user understandable manner. Chatbot replies with the text or with the other informational representational formats. Information which will be provided by the chatbot goes through various steps. The origin of the information is raw data which contains information about criminal law. This data is converted and stored for business.

Specific purpose. Data goes through the process to make it more useful for the system.

System will hold sensitive data of users and complaint records which drags the attraction of professional

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Emotion Recognition Based Personal Entertainment Robot Using ML & IP

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ABSTRACT

This project presents a method to automatically detect emotional duality and mixed emotional experience using Linux based system. Co-ordinates, distance and movement of tracked points were used to create features from visual input that captured facial expressions, head, face gestures and face movement. Spectral features, prosodic features were extracted using the camera. Espeak and Pyttsx and Face API was used for calculation of features. A combined feature vector was created by feature level fusion and cascade classifier was used for emotion detection. Live participants and actions are to be used for recording simultaneous mixed emotional experience. As per calculated result system will play songs and display books list.

Keywords: Smart Emotion, Espeak and Pyttsx and Face API

I. INTRODUCTION

Emotion recognition has important applications in the field of medicine, education, marketing, security and surveillance. Machines can enhance the human-computer interaction by accurately recognizing the human emotions and responding to those emotions. Existing research has mainly examined automatic detection of single emotion. But psychology and behavioral science studies have shown that humans can concurrently experience and express mixed emotions. For instance, a person can feel happy and sad at the same time. In this research combinations of six basic emotions (happiness, sadness, surprise, anger, fear, disgust and neutral state) were used. The aim of this study is to develop features that capture data from facial expressions to identify multiple emotions. In case of single-label classification problem each annotated feature-vector instance is only associated with a single class label. However, the multiple concurrent emotion recognition is a multi-label classification problem. In a multi-label problem, each feature vector instance is associated with multiple labels such as presence or absence of one of each six basic emotions. The multi-label classification is receiving increased attention and is being applied to a many domains such as text, music, images and video based systems, security and bioinformatics. This paper examined recognition of concurrent emotional ambivalence and mixed emotions. Additionally, the study examined two concurrent emotions (emotion duality) to limit the scope of the research based on availability of scenarios. This was done so that the experimental design was realistic. The subjects could express dual emotions with ease and observers could annotate the

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Automatic Whitelist Generation for SQL Queries Using Web Application Test

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ABSTRACT

In this survey paper the proposed system will enable secure access of data to a voice- based user interface (UI) by enabling voice-based authentication and integration with an existing Natural Language Processing (NLP) system. This survey paper focuses on voice based SQL query generation. We study the question of how to improve the fetching the results from query results as well as applying the query to the database. Traditional predefined query forms are not able to satisfy various ad-hoc queries from users on those databases. Here, we propose Machine learning based technique to generate the SQL query based on user voice, a novel database query form interface, which is able to dynamically generate query forms.

Keywords: NLP, Languages and compilers, Optimization, Verification, Voice Recognisation, Machine-independent microcode generation

I. INTRODUCTION

Natural Language Processing (NLP) is an area of application and research that explores how computers can be used to understand and manipulate natural language speech or text to do useful things. The foundation of NLP lie in a number of disciplines, namely, computer and information sciences, linguistics, mathematics, electrical and electronic engineering, artificial intelligence robotics, and psychology. NLP researchers aim to gather knowledge on how hu- man beings use and manipulate natural languages to perform desired tasks so that appropriate tools and techniques can be developed. Applications of NLP include a number of fields of study such as multilingual and cross-language information retrieval (CLIR), machine transaction, natural language, text processing and summarization, user interfaces, speech recognition, artificial intelligence and expert systems.

While natural language may be the easiest system for people to learn and use, it has proved to be the hardest for a computer to understand. The goal of NLP is to enable communication between people and computers without resorting to memorization of complex commands and procedures.

In other words, NLP is a technique, which can make the computer understand the languages naturally used by humans. In this project, we are translating English query

Into a SQL query using semantic grammar. The system will accept users query in natural language as an input. The program will check whether the query is valid or not.

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IOT Based Smart Electric Meter

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ABSTRACT

Electricity plays a cardinal role in day to day life. The electrical energy consumption in India is the third biggest after China and USA with 5.5% global share in 2016. Due to manual work, our existing electricity billing system has major drawbacks. This system gives the information on meter reading, power cut and the alert systems for producing an alarm when energy consumption exceeds beyond the specified limit using IoT.This idea is being implemented to reduce the human dependency to collect the monthly reading and minimize the technical problems regarding billing process. From the electricity board section, the information regarding the bill amount, payment and the pre-planned power shut down details are communicated to the consumer. If the customer does not pay the bill in time, the user is informed through a message. In the already existing smart energy meter, it shows the energy consumed by the appliances from the date of installation of the energy meter and its corresponding rupees. In this proposed energy meter, the meter gives the energy consumed on daily basis, its corresponding rupees, billing details and payment using IoT. This system not only reduces the power cut issues and the labor cost for noticing the residential energy consumption in regular intervals but also increases the energy conservation with the help of alarm systems and the energy meter accuracy by reducing the billing error and the cost of maintenance.

Keywords—Arduino, GSM, IoT, energy consumption, human dependency, shut down, alert message, payment details, daily basis, alarm systems.

1. INTRODUCTION

Monitoring and keeping tracking of electricity consumption for verification is a tedious task today since manual meter reading and recording is in vogue. It is important to know from the customer view point that if one is charged fairly and according to the need. [2]

Automation of the system will allow users to monitor energy meter readings over the internet in the real-time. [2]

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Identify the Hacker Using IDS And Prevent the Hacker Using IPS to secure the Cloud Data

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ABSTRACT

Data-Security generally refers to the protective measures of securing data from unapproved access and data corruption throughout the data lifecycle. It measures not only helps avoid data breaches but also shields your organization against unnecessary financial costs, loss of public trust and potential threats to brand reputation and future profits too. Nowadays, the data is stored in the cloud. Thus, Cloud-Computing is the delivery of different services throughout the internet. These resources include tools and applications like data storage, servers, databases and networking. As long as an electronic device has access to the web, it has access to the data and software programs to run it. Cloud storage technology develops very fast, and cloud storage security technology is facing unprecedented

Challenges. However, cloud storage security is not just a technical issue [5]. Now, in the fifth generation increase in the use of cloud computing, lead to the demand of CLOUD-SECURITY.

Cloud-security have security principles applied to protect the data, applications and infrastructure associated within the cloud computing technology. Thus, we are developing an application to secure the cloud. The evaluation system includes security scanning engine, security recovery engine, security quantifiable evaluation model, visual display module and etc. The security evaluation model composes of a set of evaluation elements corresponding different fields, such as computing, storage, network, maintenance, application security and etc [4].

In order to effectively manage the networks for administrators within limited time and energy, we develop a hierarchical framework which detects the malicious attacks and prevent our data from that attacks. Thus, in our application we are using two algorithms, firstly IDS (Intrusion Detection System) to detect the attack, provide the information of the hacker to the administrator and the second algorithm used is named as IPS (Intrusion Prevention System) to prevent our data from the hacker. We are also going to retrieve the data of the hacker by using support vector machine (SVM).

Keyword—Data security, Cloud-Computing, Cloud security, IDS, IPS, SVM.

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Automated Website Development

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ABSTRACT

A website helps a business to grow by using different marketing strategies. This paper describes a novel approach to develop a website by just providing the text (description of the website) or an image as input. Using Text Input it will suggest template (screenshots) after identifying the theme of the site inferred from the input. Those templates are converted into code for further customizations for their personal use. Current problem was that a web developer will take more than 15 days only to just make the basic structure of a website. This issue is resolved by our work which will generate the complete code of the webpage/ website in less amount of time. In this paper, it will tokenize each word to find their synonyms and then mapped it with root words for the theme identification and uses deep learning model to convert templates into code.

Keywords: Root words, Theme, Synonyms, code

I. INTRODUCTION

To survive in the digital world, website becomes the basic requirement of each business to represent itself in digitalized world, big or small. Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored.

If a business does not have a website, they are losing the number of great opportunities for their business. A website helps a business to grow by using different marketing strategies. So, deploying a high end and user interactive websites are important and should be done in minimal time as possible.

What makes a website?

- A website contains HTML code which acts as its Skeleton for website
- Then comes CSS (Cascading Style Sheet) and JS (JavaScript) which is as the name says used for design the website

The user input can be in any structure of the sentence from which tokens will be extracted and their synonymies will be mapped to identify the theme from root word. After identifying the theme, Suggestions will be shown and that suggestion will be feed into Convolution neural network (CNN) after that features will be extracted and feed into Long Short Time Memory (LSTM) which will generate DSL Tokens. Those tokens will be compiled to generate code.

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Voice-Based Intelligent Virtual Assistant for Windows using Speech Recognition and Speaker Identification Technology

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ABSTRACT

Voice assistants developed by big companies like Cortana by Windows, Alexa by Amazon, Siri by Apple, and Google assistant by Google which performs the task ordered by the user. It can play audio-video, search for something, book flight tickets, can have fun conversations, etc. But the downfall of such technologies is the security issue as it stores its data on the cloud which can be retrieved by any technique and can be misused. Another issue is battery backup as most of the assistants do not have an inbuilt battery to work even in light cut-off situations. To overcome the above issues this project introduces Intelligent Virtual Assistant (IVA).

IVA – Intelligent Virtual Assistant which not only follows her boss's order but also gives the next response using her artificial brain. This response may advice, motivation, choices, legal actions, etc. It comprises of gTTS, pyttsx, AIML [Artificial Intelligence Markup Language], and Python-based state-of-the-art technology. The Internet has made information more accessible over a wide network, thus making it quicker and vaster, revolutionizing how people communicate in the world. The information available on the Internet about a given topic may be extensive, which helps in finding the solutions to day-to-day problems. And hence this project is based on forming more communication interactive models with the use of gTTs and AIML, facilitating the establishment of considerably smooth dialogues between the assistant and the users. Also, IVA stores its data in the user's PC this eliminates security problems.

IVA is also capable of recognizing the user's voice its gesture. This project not only gives logical or technical output but also an emotional one. IVA is a software agent that can assist people in many of their daily activities. It is capable of retrieving information from databases to give suggestions to people on performing different tasks, deploying a learning mechanism to acquire new information on user performance. It can make assistance more reliable and efficient by collecting information autonomously from objects that are available in the surrounding environment. This project also consists of voice-based user verification using a deep learning framework that recognizes the user's voice by its timbre and pitch. To make this idea feasible, IVA uses many searching protocols, artificial intelligence, machine learning, deep learning, etc.

Keywords: Cortana, Alexa, Siri, Google Assistant, gTTs, pyttsx, AIML, artificial intelligence, machine learning, deep learning.

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Fake Image and Document Detection using Machine Learning

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ABSTRACT

In the recent times, the rates of cyber crimes has been increasing tremendously. It has been proven incredibly easy to create fake documents with powerful photo editing softwares. Also social media has proven to be the largest producer of fake images as well. Various malpractices have also been on surge with the help of producing digitally manipulated fake documents. Detection of such fake documents has become mandatory and essential for unveiling of the documents/images based cyber crimes. The tampered images and documents will be detected using neural network .The output of the system will distinguish original document from a digitally morphed document. The system will be implemented using Neural Networks.

Keywords : Artificial Neural Network ; GLMC Features; Graphical User Interface ;Machine Learning ; Support Vector Machine.

I. INTRODUCTION

In the recent times the speed of cyber-crimes has been increasing tremendously it's been proven incredibly easy to make fake documents with powerful photo editing software Also social media has proven to be the most important producer of faux images also Various malpractices have also been on surge with the assistance of manufacturing digitally manipulated fake documents Detection of such fake documents has become mandatory and essential for unveiling of the documents/images based cyber-crimes The tampered images and documents are going to be detected using neural network The output of the system will distinguish original document from a digitally morphed document The system are going to be implemented using Neural Networks this is often an desktop application the rates of cyber-crimes are on a rise it's been proven incredibly easy to make fake documents with powerful photo editing software Documents and pictures are often scanned and morphed within minutes with the assistance of sort of software available On Investigation it States a foundation and it provides an answer to differentiate between original document and digitally morphed document Here the accuracy of system method has accuracy of 96 It is also possible to change metadata content making it unreliable here it's used as a supporting parameter for error level analysis decision . In, Xunyu Pan, Siwei Lyu proposed a scheme to detect the copy-move forgery in a picture , mainly by extracting the key points for extraction. The difference between the normal method and proposed scheme is first segments the test into semantically independent patches before key point extraction. within the second stage, to refine an estimated matrix an EM-based algorithm is employed and to verify the existence of copy-move forgery. The methods are categorized in two types as active

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Employee and Workspace Safety using WSN

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ABSTRACT

This paper provides an effective study of Wireless sensor network for air quality management for safety of user microcontrollers and sensors. It also discusses about the requirement of wireless nodes which keep monitoring of work place continuously for ensuring the security of both the employees as well as environment. Its advanced technology is already been applied in many fields. This paper focuses on the application of wireless sensors in various industries, and designs a set of security monitoring and alarm system using WSN network and GPRS network.

Keywords: WSN network, GPRS network

I. INTRODUCTION

Nowadays, the vast use of real applications and challenges favor the use of "Wireless Sensor Networks" primarily as they are more efficient and cost effective as compared to alternative approaches. This characteristic of Wireless Sensor Networks allows them the capability to deploy sensor vectors under various circumstances in military and civilian applications.

Many industries are part of a developing country. Like Petroleum and chemical industry as a very important pillar of the national industry, is an important support for the national economic take-off, but also is the country's key projects to achieve industrialization. Because of the increased demands of chemical and petroleum products in different fields, all kinds of dangerous products and high-pressure equipment must be installed and produced, so the safety of petrochemical plants is also very important.

WSN: Wireless sensor network (WSN) can be described as a group of dedicated and spatially dispersed sensors used for the purpose of monitoring and recording the physical conditions of the environment and then organizing the data which is collected at a central location. WSN measures different environmental conditions such as temperature, sound, pollution levels, humidity, wind, and so on. The Wireless Sensor Network consists of nodes which can range from a few to even thousands, where each node is connected to sensors. Each of such sensor network node consists several parts which includes a radio transceiver with an antenna (internal or external), a microcontroller, an electronic

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Voice Based Email for the Visually Impaired

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ABSTRACT

E-mails are most reliable way of communication over Internet, for sending or receiving some important information. But there is a special criterion for humans to access the Internet and the criteria is you must be able to see.A survey shows that there are more than 285 million visually challenged people around the globe. That is, around 285 million people are unaware of how to use Internet or E-mail. So, forgiving an equal status to visually challenged people we have come up with this project idea which provides the client(user) with ability to send mails using voice commands without the need of keyboard or any other visual things.This system can be used effectively by handicapped and illiterate people as it is based on TTS, STT CONVERSIONS and IVR technologies.

Keywords: TTS, STT CONVERSIONS and IVR

I. INTRODUCTION

The Internet is a vast network which connects millions across the globe in various ways. So, talking about communication over the internet the first thing that comes to thought, is, E-mails. E-mails are extensively used form of online communication, both formally and informally as well. Despite social media, E-mails being the very traditional form of communication have still been the best to date. But the purpose of any service is to serve all mankind, and hence, E-mails should also be such that, they can be easily used by people from all races of life. But, Traditional E-mail Systems are accessible to several but the visually impaired class on the globe, and also various other handicapped people. So, in order to remove this drawback, An E-mail System for the visually impaired individuals would be an incredible breakthrough. Hence, this application has been thought of. Talking of the application, the application will be a web-based E-mail System for visually impaired people.Using Interactive voice response (IVR), which would enable everyone to control their own mail accounts using their voice only andalso they would be able to read, send, and perform all the other user tasks which areoffered by the traditional E-mail Systems. The system will prompt the user with voice commands to perform certain actions and the user will respond to the same with voice input. The main advantage of this system is the use of (text) keyboard is completelyeliminated, which means, the user will have to respond through their own voice and mouse eventsonly.Now you must be thinking that how will a impaired person willseetheright position on the screen for doing mouse clicks event. But this

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Helmet Detection on Two Wheeler Riders using Machine Learning and Automatic Licence Plate Recognition for Identification

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ABSTRACT

To ensure safety measures on road, detection of traffic offenders is a highly desirable but a very challenging task due to various difficulties such as closure, lighting, low video surveillance, various weather conditions, etc. this violation is a challenge due to the population and the low level of access caused mainly by the lack of an automatic system for detecting violations and taking necessary action. The growing number of people and the increasing number of vehicles make it impossible for manual systems to prevent this problem. The latest developments in Deep Learning and Image Processing provide an opportunity to solve this problem. This manuscript introduces the implementation of the three-component system which is a car, the non-use of a helmet and the number of the vehicle being monitored using Tensorflow. In-depth learning using SSD MobileNet V2 is the main method used to use the system. In this paper, we present a framework for automatic detection of motorcycle riders who drive barefoot in surveillance videos.

Keywords: SSD MobileNet V2, video surveillance, Dataset, Tensorflow and Deep Learning

I. INTRODUCTION

As motorcycles have become more affordable and have become the main route for many Indians. However, it comes with a high risk of accidents. To reduce the risk involved, it is advisable for motorcyclists to use a helmet. In view of this, the government has made it a criminal offense to ride a motorcycle without a helmet. Currently video-based methods are being used. This is simply not possible and is not possible as people are involved. The automation of this process is very desirable in recognizing the reliable and firmness of these violations on college premises. By looking at the properties and challenges required, we propose the idea of automatic acquisition of motorcycle riders without a helmet, using inputs from existing surveillance cameras operating in real time. Therefore, the solution to finding offenders using existing equipment makes it cost effective.

In order to ensure the safety measure, the detection of traffic rule violators is a highly desirable but challenging task due to various difficulties such as occlusion, illumination , poor quality of surveillance videos , varying whether condition ,etc.

This project holds an agenda to propose a framework for automatic detection of motorcyclists driving without helmets in surveillance videos.

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Survey on Aid Donation Tracking Using Blockchain

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ABSTRACT

The Blockchain, a decentralized digital ledger system which has now been emerged as a technology that combines cryptographic, data management, networking, and incentive mechanism to support the verification, execution and recording of transactions between parties. The blockchain technology was first introduced for supporting the digital currency transactions in a secured way but now its potential has been recognized as a great importance in all form of transaction. Aid-donation taking and providing companies can take advantage of it by providing a transparent and safe transaction mechanism with smart contract system to the donors. It will allow the user to track their donation's and will get to know about the utilization of their donation hence makes this a crystal-clear transparent mechanism.

Keywords: Blockchain, Cryptographic, Data Management, Networking, Incentive Mechanism, Transactions, Digital currency.

I. INTRODUCTION

An increasing corruption and carelessness in different organization have led to decreasing faith of people towards these organizations. One of those organization are the aid-donation taking organizations which are meant to help others but is struggling from the same problem. Here blockchain can be introduced to create an online digital donation platform were every donor can donate easily and also they can track there donated amount and get to know about its utilization at ground level. This will increase the faith of people towards these organizations. Here user also have options to audit and also the smart contract system has been introduced here which is intended to automatically execute, control or document legally relevant events and actions as per the terms of an agreement. The basic objectives are to reduce the intermediations, arbitrations and enforcement costs, fraud losses as well as reduction of malicious and accidental exceptions.

II. METHODOLOGY

A. Proposed System:

In the existing system, the problem is. There is no track of the records of the money, transparency

- Payers are unaware of how their money has been utilized
- Fraudulent authorities indulge in corruption
- Corruption by the intermediaries administering funds and services.

These problems restrict payers from paying proper tax or donate in a campaign, as they are not sure about the legitimacy of authorities in the chain.

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Survey on Botnet and Its Detection Techniques

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ABSTRACT

Botnet term was coined when multiple networks of bots came into existence. It is a number of Internet-connected devices, which runs single or multiple bots. Botnets can be used to perform Distributed Denial-of-Service (DDoS) attacks, steal data, Ransomware, send spams, and allow attackers to gain unauthorised access on devices and its connections. Command and control(C&C) software are used by the Owner (BotMaster) to control the botnet. This paper explores the survey conducted on botnet and its detection techniques.

Keywords - Botnet, Botmaster,Intrusion Detection System(IDS), Neural Network, P2P, Network Traffic.

I. INTRODUCTION

A bot is an automated program which runs over the internet, some run automatically, while some run when they are triggered by specific input. Internet connected devices are infected with a piece of software that is bot. These internet connected devices are nothing but the botnet. After infection, these internet connected devices steer the instruction commanded by the owner of Botnet known as Bot Master/Bot Herder in 4 phases.

Following are the phases of the botnet infection:

Phase 1 Infection Initialization

A- "Social media" posts targeted by cybercriminal, In the first instance cybercriminal will post a malicious link on social media websites like hoax advertisements, shammed icons etc. When users perform any action on these websites, their action proved to be erroneous, as the current page is redirected to a malicious website, where the software gets installed which was already planted by the BotMaster.

B- "Infection method" approach is followed by the cybercriminals. In this "Email Phishing" tactics are being used to lure users on malicious websites as the user gets redirected when a link is being clicked, and their system gets compromised.

C- "Email Attachments" cybercriminals embody malicious pieces of software with an email, which gets downloaded once clicked and infects the whole system.

Phase 2 Connection to C2C Server

System manifests a connection with a command-and-control (C & C) server which establishes unauthorised connection periodically or may consummate upon infecting the system with malicious activity. Any infected machine liaising with C&C server will comply to launch a coordinated attack. e.g P2P, TELNET, IRC.

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Hand Sign Recognition Using Deep Learning based on Machine Learning

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ABSTRACT

Addressing the issues of People with Hearing and Vocal Impairment through a single aiding system is a tough job. A lot of work in modern day research focuses on addressing the issues of one of the above challenges but not all. The work focuses on finding a unique technique based on the machine learning that aids the mute by letting them hear what is represented as text and its sound. The proposed system achieved the technique that takes the sign image through a web camera and applies to the image processing then analysis what exactly want to the mute people at end the text available to voice signals. All these three solutions were modulated to be in a single unique system. All these activities are coordinated using the Ubuntu system using python. The vocally impaired people are helped by the process in which the image to text and text to speech is given using machine learning.

Keywords: Image Processing, Tensor flow Algorithm, CNN Algorithm Process, Languages and compilers, Classification, Verification.

I. INTRODUCTION

Dumber people can simply tilt the message by sign language which could not be understandable by other people. By this system we provide the solution for blind, deaf and dumb people. For blind people the image is converted to voice by using Tesseract software, the deaf people received their content by message as soon as the opposite person speaks out it displayed as a message. The dumb persons conveyed their message through text instead of sign language which is delivered via e speak. We have provided necessary steps to resolve the problems of those masses.Approximately 285 million people are judged to be visually impaired worldwide in which 39 million are blind and 246 are said have low vision. Approximately 90% of this world□s vocally impaired is from the dispirited income people and 82% of people living with blindness aging persons and above. The numbers of people visually impaired from eye related diseases have been brought down in the past 20 years according to global estimated work. In which 80% of all visual restitution can be prevented or cured. India is considered to be the home for the world□s largest act of blind people. In this world, about 37 million are blind, in which 15 million are from India. There are so many researches have been getting along in this universe, but the visual impairment could not be broken for good. In lodge to facilitate these people we have developed the assistive device for blind people who does not want the assistance of other neighbours.

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Smart Trolley With Advance Billing System

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ABSTRACT

The shopping centre is a spot where individuals get their regular necessities. In shopping malls, there has been an emerging market for fast and simple payment of bills. Very sometimes, shoppers are dissatisfied with finding the items on the shopping list while shopping in a store and no help is required. We have developed a smart trolley with a smartphone app to solve these issues. This paper offers an interface to help consumers locate the product's location. It also offers a consolidated and automatic billing system using Node MCU's barcode scanner. Super markets will be issued with a barcode for each shopping mall commodity, to distinguish its type. A Product Identification System (PID) containing Node MCU, the barcode reader, is used for each shopping cart. Purchasing product details on the shopping cart can be read by a barcode reader and presented in the mobile app that is linked to the device. The complete bill is passed to the PC by the processor at the billing counter.

Keywords: billing trolley, barcode, nodeMCU, shopping.

I. INTRODUCTION

Since the dawn of civilization, people have continually produced creativity to support their demands. More independence can be the underlying explanation for success of creativity and this contributes to developing assignments and making them smaller and easier on a daily basis. Shopping is one crucial activity for individuals to expend the highest measure of energy. The shopping centre is a place where people get their everyday needs from food supplies, clothes, electrical equipment and so on. Most of the time clients have difficulties with the unspecific details concerning the object marked down and the abuse of the counters' superfluous time. Each grocery store and supermarket in this revolutionary world utilises shopping trolleys with a particular end purpose to help consumers pick and store the things they expect to purchase. Customers normally buy the necessary goods and put them in their carts and wait for bill payments at the counters thereafter. The paying of bills at the counters is a very troublesome and time-consuming procedure that raises the number of people at the counters. As demonstrated by a survey undertaken by the US Department Corporation, individuals regularly spend 1.4 hours shopping on a daily basis. If the queue is too long, a large amount of customers would choose to leave the

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Emotion Detection to Prevent Suicide

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ABSTRACT

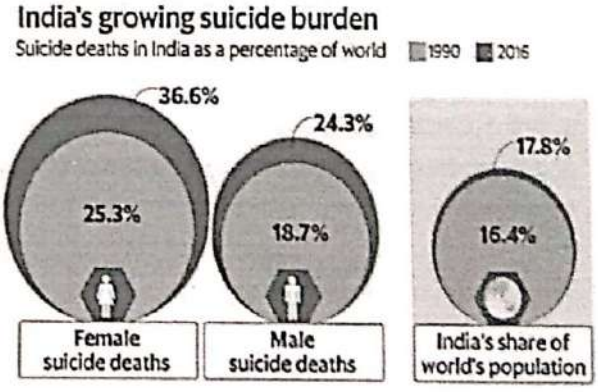
Suicide might be considered as one of the most serious social health problems in the modern society. Suicidal ideation or suicidal thoughts are people's thoughts of committing suicide. It can be regarded as a risk indicator of suicide. India is among the top countries among in the world to have annual suicide rate. Objective of Face Emotion Recognition (FER) is identifying emotions of a human for reduce the suicide rate. This system involves extraction of facial features, and threshold detection of stress using emotions expressed through face using the Convolutional Neural Network (CNN) algorithm. This system is basically used to classify positive and negative emotions and detects the stress based on usual threshold value.

Keywords: Suicide rate, Emotions, Convolutional Neural Network.

I. INTRODUCTION

Suicide is an important issue in the Indian context. More than one lakh (one hundred thousand) lives are lost every year to suicide in our country. In the last two decades, the suicide rate has increased from 7.9 to 10.3 per 100,000. There is a wide variation in the suicide rates within the country. The southern states of Kerala, Karnataka, Andhra Pradesh and Tamil Nadu have a suicide rate of > 15 while in the Northern States of Punjab, Uttar Pradesh, Bihar and Jammu and Kashmir, the suicide rate is < 3. This variable pattern has been stable for the last twenty years. Higher literacy, a better reporting system, lower external aggression, higher socioeconomic status and higher expectations are the possible explanations for the higher suicide rates in the southern states.

In 2016 the number of suicides in India had increased to 230,314. Suicide was the most common cause of death in both the age groups of 15-29 years and 15-39 years. About 800,000 people die by suicide worldwide every year, of these 135,000 (17%) are residents of India, a nation with 17.5% of world population.



India reported an average 381 deaths by suicide daily in 2019, totalling 1,39,123 fatalities over the year,

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Online E-Voting System using Blockchain Technology

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ABSTRACT

India is the world's largest democracy with a population of more than 1 billion; India has an electorate of more than 668 million and covers 543 parliamentary constituencies. Voting is the bridge between the governed and government. The last few years have brought a renewed focus on to the technology used in the voting process. The current voting system has many security holes, and it is difficult to prove even simple security properties about them. A voting system that can be proven correct has many concerns. There are some reasons for a government to use electronic systems are to increase elections activities and to reduce the elections expenses. Still there is some scope of work in electronic voting system because there is no way of identification by the electronic voting system whether the user is authentic or not and securing electronic voting machine from miscreants. The proposed system is to develop a compatible voting machine with high security by using Block-chain technology in order to increase security and transparency between the users.

Keywords:- Electronic Voting System, Voter ID, Security, Block Chain, Vote

I. INTRODUCTION

Voting, whether traditional ballet based or electronic voting (e-voting), is what modern democracies are built upon. In recent years' voter apathy has been increasing, especially among the younger computer/tech savvy generation. E-voting is pushed as a potential solution to attract young voters. For a robust e-voting scheme, a number of functional and security requirements are specified including transparency, accuracy, auditability, system and data integrity, secrecy/privacy, availability, and distribution of authority. Block-chain technology is supported by a distributed network consisting of a large number of interconnected nodes. Each of these nodes have their own copy of the distributed ledger that contains the full history of all transactions the network has processed. There is no single authority that controls the network. If the majority of the nodes agree, they accept a transaction. This network allows users to remain anonymous. A basic analysis of the block-chain technology suggests that it is a suitable basis for e-voting and moreover, it could have the potential to make e-voting more acceptable and reliable.

II. Related Work

This paper [1], proposed secure voting system with fast voting results through RFID based biometric voting system. In this paper, there are two

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A Framework for Analyzing Real-Time Tweets to Detect Terrorist Activities

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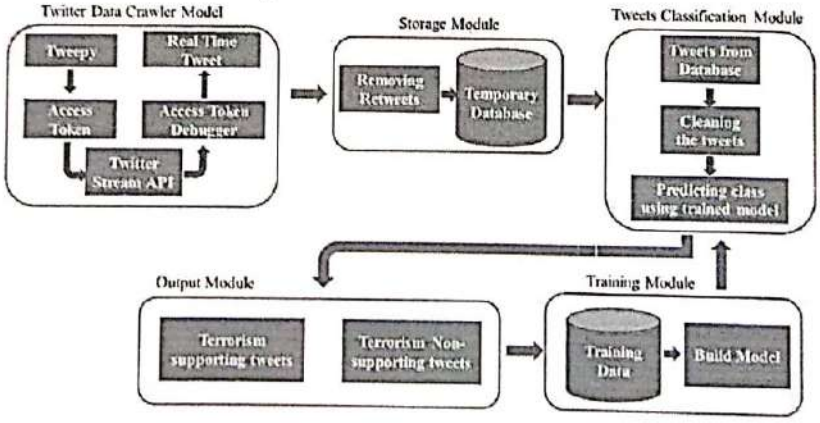
ABSTRACT

Terrorist organizations use different social media as a kind of tool for spreading their views and influence general people to join their terrorist activities. Twitter is one of the the most common and easy way to reach mass people within short time span. We have focused on the development of a system that can automatically detect terrorism-supporting tweets by real-time analyzation. In this system, we have developed a front-end system for real-time viewing of the tweets from twitter that are detected using this system. We also have compared the performance of the two different machine learning classifiers, Support Vector Machine (SVM) and Multinomial Logistic Regression and found that the first one works better than the second one. As our system is highly dependent on the data, for more accuracy we added a re-train module. By using this module wrongly classified tweets can be added to the training dataset and can train the whole system again for better performance. This system will help to ban the terrorist accounts from twitter so that they can't promote terrorism, their views or spread fear among general people in society.

Keywords: - Social Media, Twitter, Terrorism, Real-Time Tweets, Machine Learning.

Problem Statement: A Framework for Analyzing Real-Time Tweets to Detect Terrorist Activities.
The function of twitter data crawler module is to crawl real-time tweets from Twitter using Twitter Streaming API. The storage module stores the tweets temporarily. Tweet classification module predicts the category of the tweet. The output module shows the output of the system. The training module builds the classification model which is used to predict the category of each tweet.

System Architecture



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Survey on Real Time Road Lanes Detection of Autonomous Vehicles

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ABSTRACT

Autonomous road vehicles are increasingly becoming more important and there are several techniques and sensors that are being applied for vehicle control. Autonomous vehicles, Intelligent and Advanced Driving Assistant Systems are promising and reliable solutions to enhance road safety, traffic issues and passengers' comfort. An increasing safety and reducing road accidents, thereby saving lives are one of great interest in the context of Advanced Driver Assistance Systems. Apparently, among the complex and challenging tasks of future road vehicles is road lane detection or road boundaries detection. However, lane detection is a difficult problem because of the varying road conditions that one can encounter. Such applications require advanced computer vision algorithms that demand powerful computers with high speed processing capabilities. Keeping intelligent vehicles on the road until its destination, in some cases, remains a great challenge, particularly when driving at high speeds. The first principle task is robust navigation, which is often based on system vision to acquire RGB images of the road for more advanced processing. The second task is the vehicle's dynamic controller according to its position, speed and direction. In this paper we survey the approaches and the algorithmic techniques devised for the various modalities over the last 5 years. We present a generic break down of the problem into its functional building blocks and elaborate the wide range of proposed methods within this scheme.

Keywords: Advanced Driving Assistant Systems, lane detection, Autonomous vehicles.

I. INTRODUCTION

In real time lane detection system for autonomous vehicles, a lane detection and changing system is to warn and notify the vehicle driver when the vehicle is about to cross the lane and its dedicated path without the signal to turn. These terms are designed in such a way that it can reduce accidents, traffic and other circumstances where the driver is not paying attention or is distracted by phone call or other things. These mechanisms are totally beneficial for road management and traffic controlling at a greater part. In this paper, we have introduced a computer vision-based technique that can perfectly detect the lanes in

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Detection of Depression or Sentiment Analysis

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ABSTRACT

Depression is ranked as the largest contributor to global disability and is also a major reason for suicide. Still, many individuals suffering from forms of depression are not treated for various reasons. Previous studies have shown that depression also has an effect on language usage and that many depressed individuals use social media platforms or the internet in general to get information or discuss their problems. In particular, a convolutional neural network based on different word embeddings is evaluated and compared to a classification based on user-level linguistic metadata. An ensemble of both approaches is shown to achieve state-of-the-art results in a current early detection task. Furthermore, the currently popular ERDE score as metric for early detection systems is examined in detail and its drawbacks in the context of shared tasks are illustrated. A slightly modified metric is proposed and compared to the original score. Finally, a new word embedding was trained on a large corpus of the same domain as the described task and is evaluated as well. Social networks have been developed as a great point for its users to communicate with their interested friends and share their opinions, photos, and videos reflecting their moods, feelings and sentiments. This creates an opportunity to analyze social network data for user's feelings and sentiments to investigate their moods and attitudes when they are communicating via these online tools.

Keywords: Social network, Emotions, Depression, Sentiment analysis.

I. INTRODUCTION

According to World Health Organization (WHO) , more than 300 million people worldwide are suffering from depression, which equals about 4.4% of the global population. While forms of depression are more common among females (5.1%) than males (3.6%) and prevalence differs between regions of the world, it occurs in any age group and is not limited to any specific life situation. Depression is therefore often described to be accompanied by paradoxes, caused by a contrast between the self-image of a depressed person and the actual facts . Latest results from the 2016 National Survey on Drug Use and Health in the United States report that, during the year 2016, 12.8% of adolescents between 12 and 17 years old and 6.7% of adults had suffered a major depressive episode (MDE). Precisely defining depression is not an easy task, not only because several sub-types have been described and changed in the past , but also because the term "being depressed" has become frequently used in everyday language. In general, depression can be described to lead to an altered mood and may also be accompanied The proliferations of internet and communication technologies, especially the online social networks

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Artificial Intelligence based COVID-19 classification by using Deep Learning and Convolutional Neural Network

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ABSTRACT

COVID-19 irruption has place the total world in associate unexampled troublesome state of affairs delivery life round the world to a daunting halt and claiming thousands of lives. because of COVID-19 unfold in 212 countries and territories and increasing numbers of infected cases and death tolls mounting to five,212,172 and 334,915, it remains a true threat to the general public health system. This paper renders a response to combat the virus through Artificial Intelligence(AI) primarily based respiratory organ illness Classification by victimization organic process Deep Learning commonplace. The design of the projected model initial goes through a pre-processing of the input image is followed by a rise in information. Then the model begins a step to extract the characteristics followed by the training step. Finally, the model begins a classification and prediction method with a totally connected network fashioned of many classifiers. The model explains associate integrated bioinformatics approach during which completely different} aspects of information of knowledge taken from different data sources area unit place along to make the easy platforms for physicians and researchers. the most advantage of those AI-based platforms is to accelerate the method of identification and treatment of the COVID-19 illness. the foremost recent free publications and medical reports were investigated to decide on inputs and targets of the network that would facilitate reaching a reliable Artificial Neural Network-based tool for challenges related to COVID-19.

Keywords: Artificial Intelligence, Covid-19, Deep Learning, Convolution Neural Network, Image Processing

I. INTRODUCTION

The novel Coronavirus selected SARS-CoV-2 appeared in December 2019 to initiate an outbreak of health problem called COVID-19 that established itself as a tough illness which will emerge in numerous forms and levels of severity starting from delicate to severe with the chance of organ failure and death. From mild, selflimiting tract ill health to severe progressive respiratory illness, multi-organ failure, and death. the planet Health Organization declared it as an outbreak on Gregorian calendar month thirty, 2020. With the progress of the pandemic and also the rising range of the confirmed cases and patients WHO expertise severe metabolic process failure and vas complications, there area unit solid reasons to be enormously involved concerning the results of this virus infection. decisive acceptable

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Forensic Aspects of Flash Memory and Retrieval of Deleted Information

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ABSTRACT

Flash memory devices are considering efficient storage units, thus it is producing tremendous demands for the usage of obtrusive memory devices. One of the severe problems that forensic investigators face is to remove deleted information from flash memory devices, as some of the flash memory machines prevent the reduction of eradicating data using the standard rhetorical techniques. This is to be taken into consideration by a study of the physics of flash retention, the development of trendy transition, layers, and the file systems that support these devices. It then regulates forensic experiments on various types of flash-based data-storage medium and encapsulates the results of each media. The paper also refers to the search for various practices to be applied to flash storage media, which helps to enable them to retrieve deleted information with the use of standard forensic techniques.

Keywords: Digital Devices, FTL, Digital Forensics Model, MTD, Flash memory transistors.

I. INTRODUCTION

There has been a huge growth in the usage of convenient applications, which has led to a quick extend in consumer electronics. These reliable applications make use of a non-volatile storage medium that can save data electrically using semiconductor chips. The data on these chips can be dynamically removed and can be automated several times after its written and deleted. The semiconductor chip (or transistor) and can ware integrated at a large scale on a very tiny chip. This allows for huge digital storage capacity on a tiny chip that is physically no bigger than the size of a human nail. These memory chips it's known as flash memory, and they bring a huge impact on the way the data it's collected and retrieved. Compared to the outmoded visual storage medium, flash memory strategies operate at low power and offer high resistance to shock. Since these devices come in minor physical sizes and vast storage space with the proficiency of uneven usage, it finds its applications in the military to large-scale end-user usage. The criminal movement has also equally grown with enhancements in the flash devices. Mostly these device uses the memory cards or any flash-based memory device which allow them to store data easily with improved portability and efficiency. For a forensic expert, extracting data from these devices is challenging nowadays. Current forensic approaches and analysis do not allow for acquiring data that are present on these devices. This includes improving the deleted data, which might be useful in gathering evidence related to criminal activity. Attaining data from the flash devices is only

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Understanding Customer Behaviour in Shopping Mall by indoor tracking and QR Identification

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ABSTRACT

The prosperity of various indoor data tracking technologies makes possible for the large collection of tracking data in indoor spaces such shopping malls. Much of the focus has been on several fundamental problems such finding the ideal location, indoor shopping mall model, products requirements and understanding the patterns of shopping behavior of customers to facilitate higher growth in sales and to analyze strategies to efficiently manage the customer data, this paper attempts to analyze customer behavior from a unique indoor tracking data, which will promote the convergence between various applications and the underlying data. In particular, this paper uses the alternative method for indoor tracking and customer data by using QR code technology which uniquely differentiates each customer, collectively stores data and provides organized purchased product data, wherein we cluster users into several groups and summarize the most characteristic behaviors of each cluster. Last but not least, we analyze customer's individual behaviors through two aspects: 1) the K-means clustering algorithm is used to reveal concentrated region for the attributes required to analyze and 2) a summary of all the purchase data classified into categories required by user are generated.

Keywords: QR code, K-means clustering, indoor tracking.

I. INTRODUCTION

In recent years, the data mining field has become a very important concept in business and marketing sector. One such sector is the shopping malls and complexes which require the analysis and understanding the customer purchase pattern and behavior towards the products. This project aims to provide a concrete solution to analysis and tracking of customer behavior and its analysis using machine learning. Although a considerable amount of research has focused on the management [1] and analysis of indoor tracking data [2], we still have a relatively limited understanding of the customer to become the loyal consumer behaviors in an indoor space (e.g., a shopping mall). To fulfill this crucial void, in this paper, we aim to introduce a unique indoor tracking technique with the help of QR code technology. Both the data and relevant analysis can serve as the building blocks of future study and applications which can serve the purpose to generate maximum efficiency for the shopping malls from the data obtained from this paper. The usage of QR code technology [3] is implemented to allocate unique identification to each customer entering the shopping mall. All the purchases made by the Customer are recorded in the database by scanning the QR code at the time of purchase and linking it to allocated

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Virtual Painting with Opencv Using Python

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ABSTRACT

In modern technologies video tracking and processing the feed has been very essential. This processed data can be used for many research purposes or to express a particular output on a particular system. There are various methods for processing and manipulation of data to get the required output. This paint application is created using OpenCV module and python programming language which is an apex machine learning tool to create an application like this. Given the real time webcam data, this paint-like python application uses OpenCV library to track an object-of-interest (a bottle cap in this case) and allows the user to draw by moving the object, which makes it both awesome and challenging to draw simple things.

Keywords: Machine learning, OpenCV, Morphing Techniques, Human-Computer Interactions, Air Writing.

I. INTRODUCTION

OpenCV was launched in August 1999 at the Computer Vision and Pattern Recognition conference (and so turns 17 years old at the publication of this book). Gary Bradski founded OpenCV at Intel with the intention to accelerate both the research and use of real applications of computer vision in society. OpenCV has nearly 3,000 functions, has had 14 million downloads, is trending well above 200,000 downloads per month, and is used daily in millions of cell phones, recognizing bar codes, stitching panoramas together, and improving images through computational photography.

OpenCV is at work in robotics systems—picking lettuce, recognizing items on conveyor belts, helping self-driving cars see, flying quad-rotors, doing tracking and mapping in virtual and augmented reality systems, helping unload trucks and pallets in distribution centres, and more—and is built into the Robotics Operating System (ROS) [1]. It is used in applications that promote mine safety, prevent swimming pool drownings, process Google Maps and street view imagery, and implement Google X robotics, to name a few examples.

OpenCV has been re-architected from C to modern, modular C++ compatible with STL and Boost. The library has been brought up to modern software development standards with distributed development on Git. **Computer vision** is an interdisciplinary scientific field that deals with how computers can be made to gain high-level understanding from digital images or videos. From the perspective of engineering, it seeks to automate tasks that the human visual system can do. OpenCV is a computer vision and machine learning software library that includes many common image analysis algorithms that will help us build custom,

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SEO Report Generator and Optimizer

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ABSTRACT

In this project, we will be working on to create a fully automated SEO report generator based on the guidelines given by the search engines (Google/Bing/ Gropher) and create an indexing chart by going through the source code of the given website and ranking it in aspects of performance, SEO, best practices and availability.
The secondary objective of the project is to recommend keywords based on the given website description (meta description tag from HTML file). To create the report we will need to rank the result that comes up after searching someone's name or their website and categorize them into three categories Good, Bad, and Critical. These can be flagged to the administrator team for content removal. For categorization, we will be building upon the Compromise NLP engine based on the NODE JS environment.
Keywords: SEO, NLP, NODE JS, HTML

I. INTRODUCTION

The current process of SEO optimization and report generation is a manual process. When we search for their online reputation, the search result gets categorized based on textual context and the effect on one's reputation. If they have a personal website or organisation's website we go to that website and based on the search engine guidelines (Google/ Bing/ Gropher) we rank the website in various aspects. After collecting all the data a report is generated that is then delivered to the client.

Pain points:

- Manual process
- Report Generation is a repetitive task
- Data collection from various sources is time consuming

Our model will fix all these issues by automating time consuming and repetitive tasks with the help of web scraping and NLP engine for contextual understanding.
The system starts with this creating selenium web driver instances and then running them simultaneously to measure different aspects of website performance, search engine optimization guidelines, categorizing search results of a person/company name and thus does the scoring for one's reputation.

We use the NODE environment to create the backend that initializes all the required systems and takes in all the factors that we need to work on. We also create a parallel puppeteer instance that will provide us with an headless browser interface which inturn can be automated by the selenium web driver.
These systems will be self reliant and will produce a report in which the website will be scored for given

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Prevention of Phishing Attacks on Online Voting System Using Visual Cryptography

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ABSTRACT

The aim of Voting System using Visual Cryptography is to provide facility to cast for critical and confidential decisions of internal corporate. It provides the flexibility of casting vote from any remote place. The confidentiality of the election is maintained by applying the appropriate security measures so that the voter can vote for any participating candidate but only if he logs into the system by entering the correct password which is generated by merging the two shares using Visual Cryptography scheme. The administrator is responsible for sending the shares, 1st share to voter email id before election and 2nd share will be available in the Voting System for his login during election. The voters get the secret password to cast his vote by the combination of share 1 and share 2 using Voting Cryptography. Phishing is an attempt by an individual or group which aims to get personal confidential information from unsuspecting victims. Fake websites which are looks like the original websites are being hosted to achieve this. Internet voting focuses on security, privacy, and secrecy issues, as well as challenges for stakeholder involvement and observation of the process.

Keywords : Authentication , Visual Cryptography , Image captcha phishing , Phishing , Link guard Algorithm , Online Voting

I. INTRODUCTION

Due to rapid increase in the internet usage, sharing of information on the internet has started, however they are unaware that the network on it they are sharing files is secure or not. Thus data security becomes a very serious issue these days [1]. Phishing is identified as a significant security threat known is phishing [2-4] every moment a new technique for doing fraud is being increased. Thus, the security in these cases should be elevated and should not be manageable with implementation. Now a days, most applications are safe with their underlying system. Phishing is identified as fraud that steals identification and personal data of people [5]. many information security techniques have been developed to protect information from hackers that includes Steganography, Cryptography and other encryption techniques .Steganography techniques is applied on any style of digital media like text, video, audio or footage. Visual cryptography and Secret Image Sharing are cryptography techniques that are used for

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Malaria And Dengue Disease Prediction Based on Blood Cell Image Using Machine Learning

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ABSTRACT

The health care environment is found to be rich in information, but poor in extracting data from the knowledge. This is often due to the shortage of effective analysis tool to get hidden relationships and trends in them. By applying the machine learning algorithms and techniques, valuable knowledge are often extracted from the health care system. Malaria and Dengue fever have cluster of condition affecting the structure and functions of body and has many root causes. We tend to area unit exploitation Deep Learning algorithms to extend the accuracy of Malaria and Dengue Disease prediction System. We also expand this technique to research the actual area to maximum patient were health is weak based on hospital patient data with the assistance of clustering. It is enforced as desktop application during which user submits the heterogeneous data like text and image of blood cells symptoms. It retrieves hidden information from stored database and deep learning model and compares the user values with trained data set.

Keywords- Machine learning, Disease prediction, Area detection, Malaria, Dengue.

I. INTRODUCTION

Welcome to the AI for Social Good Series, where we will be focusing on different aspects of how Artificial Intelligence (AI) including with popular open-source tools, technologies and frameworks are getting used for development and betterment of our society. "Health is Wealth" is probably a clichéd quote yet very true! During this system, we will check out how AI are often leveraged for detecting malaria, a deadly disease and therefore the promise of building a low-cost, yet effective and accurate open-source solution. The intent of the system is two-fold understanding the motivation and importance of the deadly disease Malaria and Dengue and therefore the effectiveness of deep learning in detecting Malaria and Dengue.

Modern A major challenge facing healthcare organizations (hospitals, medical centres) is the provision of quality services at affordable costs. Quality service implies identification of diagnosing patients correctly and administering treatments that are effective. Poor clinical choices will lead to disastrous consequences which are therefore unacceptable. Hospitals must also minimize the value of clinical tests. They can achieve these results by using acceptable computer-based information and/or decision support systems. Most hospitals nowadays use employ some sort of hospital information systems to manage their healthcare or patient data.

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College Enquiry Chatbot Using Rasa

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ABSTRACT

Nowadays, many people are using smartphone with many new applications i.e., technology is growing day by day. A chat bot has information stored in its database to identify the sentences and making a decision itself as response to answer a given question. The college enquiry chat bot will be built using algorithm that analyses queries and understand user's message. This chat bot is implemented using RASA. Rasa is an open-source framework for building AI bots which consists of two components: Rasa NLU and Rasa core. Rasa core is the component which handles the dialog engine for the framework and helps in creating more complex chatbots with customization. Rasa's NLU helps the developers with the technology and the tools necessary for capturing and understanding user input, determining the intent and entities. To design a College Enquiry Chatbot for Students to solve their quires within few minutes. Hardware requirements are i3 processor-based computer and 2GB-RAM. Software requirements include Rasa and Python 3.6 or higher. The aim is to implement a chatbot which can resolve student's queries, search the result for query and give the solution. The chatbot will handle the queries, ultimately reducing the human effort.

Keywords: Artificial Intelligence, Database, Intelligence Machine.

I. INTRODUCTION

Nowadays, we see the chat bots everywhere Chat bots are the source of answers to the users questions in any particular domain where it is operating. Chat bots are the source of answers to the users questions in any particular domain where it is operating.

To compete with the best Frameworks like Google Dialog Flow and Microsoft Luis, RASA came up with two built features NLU and CORE.

RASA NLU handles the intent and entity. Whereas, the RASA CORE takes care of the dialogue flow and guesses the "probable" next state of the conversation.

Unlike Dialog Flow, RASA does not provide a complete user interface, the users are free to customize and develop Python scripts on top of it.

In contrast to Dialog Flow, RASA does not provide hosting facilities. The user can host in their own sever, which also gives the user the ownership of the data.

The need for college enquiry system arises due to various reasons which include: the slow nature of college website, an outsider would not know where to search for a particular piece of information, difficult for the person outside college's domain to extract information. The smart solution for all the drawbacks

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Patient Feedback using Speech Emotion Recognition

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ABSTRACT

Hospitals attempt to collect feedback from the patients to study their sentiment towards their services and facilitates provided by the hospitals to improve their environment. In present scenario feedbacks are taken in written form and are not truly maintained by hospital staff , and this technique does not reveal the true sentiments of the patients ,but this SER feedback provides a chance to highlight certain aspects. In this paper, a method has been proposed for emotion recognition by speech based on speech features and speech transcriptions, such as Spectrogram, Mel-Frequency Cepstral Coefficients (MFCCs) ,helps to retain emotion related low level characteristics in speech where as text helps capture semantic meaning both of which help in different aspects of emotion detection.

Keywords: Speech Emotion Recognition, SER, Speech Transcriptions, Speech Features .

I. INTRODUCTION

Feedback is an event that occurs when the output of a system is used as input back into the system as part of a chain of cause and effect. Feedback plays an important role in hospital by helping to adopt new knowledge and prevent repetitive mistakes. Feedback is a process which helps the organization to monitor, evaluate, and regulate the overall working environment. Good feedback practice provides useful information to the organization in improving the teaching and learning experience.

Traditionally feedback in hospital is filled out manually through forms due to which patients pay no attention about filling the form seriously. Also this process is time-consuming and very tedious job. Their might be also duplications of data and the information entered maybe false or misleading . There are many chances to lose data. Hospital might try to maintain only the positive feedback for its reputation , and this might be misleading to the people. This paper focuses on generating Patient feedback that takes voice as an input, analyze it using Speech Emotion Recognition(SER) & conveys us the feedback of the patients through their emotions. Also it generates ratings through feedback such as Excellent ,satisfactory , non- satisfactory, need improvement etc.

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Automatic Answer Sheet Checker

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ABSTRACT

An automating the task of scoring subjective answer is considered. The goal is to assign score which are comparable to those of human score by coupling AI technologies . In this process involves many image level operation i.e. removal of pre-printed matter , extraction and segmentation of words. Scoring is based on machine learning of parameter and natural language processing. System checks answer and score as good as human being. We present an Answer Sheet Checker based on Textual Entailment and Question Answering. The important features used to develop the Answer Sheet Checker System are named Entity Recognition, Textual Entailment, Question-Answer type Analysis and Chunk Boundary and Dependency relations. Separate Answer Sheet Checker modules have been developed for each of these features. We first combine the question and the supporting text to check the entailment relations as either "VALIDATED" or "REJECTED". Once the user enters his/her answers the system then compares this answer to original answer written in database and allocates marks accordingly. The system requires you to store the original answer for the system. This facility is provided by the Admin. The admin may insert questions and respective subjective answers in the system. When a user takes the test he/she is provided with questions and areas to type his answers. The purpose of this system is to automate the old fashioned manual system and introduce automatic evaluation of marks in much faster and accurate way.

Keywords - Data-mining, Stop word Selection, Text Classification, Stemming Algorithm and Stripping Algorithm.

I. INTRODUCTION

The answer sheet is widely used for student performance in exam in school and college .The main approach is to evaluation is efficient and reliable. An automatic answer sheet checker checks the answer sheet and written mark as similar to human being .This software is built to check the subjective answer. The system consist of in build artificial sensor that verify answer and allocate marks according as good as human being accessing large number of handwritten answer sheet is relatively time consuming task there is an intense need of speed up and enhance a process of rating handwritten words while maintaining cost effectiveness .It is relatively inexpensive answer written by hand .The primary means of testing the student on state assessment of reading compression motivation of these system is

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Bank Locker Security System using Machine Learning with Face and Liveness Detection

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ABSTRACT

Ensuring the security of transactions is currently the biggest threat facing banking systems. The use of biometric authentication of users attracts huge sums of money from banks around the world due to their convenience and acceptance. Especially in offline environments, where face images from ID documents are matched to digital selfies. In fact, comparisons of selfies with IDs have also been used in some broader programs these days, such as automatic immigration control. The great difficulty of such a process lies in limiting the differences between comparative facial images given their different origins. Based on deep features extracted by two well-referenced Convolutional Neural Networks(CNN).we suggest a novel architecture for cross-domain matching problem . The results obtained from the data collected, called Face Bank, with more than 93% accuracy, indicate the strength of the proposed face-to-face comparison problem and its inclusion in real banking security systems.

Keywords: Convolutional Neural Networks(CNN), Face Bank, automatic immigration control, Digital selfies, Face-to-face comparison problem.

I. INTRODUCTION

Much work is still necessary to allow convenient, secure and friendly systems to be designed.the recognition performance of biometric system is satisfactory for most applications, In face recognition, the usual attack methods may be classified into certain categories.

The concept of classifying is placed on what verification proof is equip to face verification system, such as a lifted photo, lifted face photos, recorded video, 3D face models with the skills of blinking and lip moving, 3D face models with various expressions and so on. The concept of classifying is placed on what verification proof is provide to face verification system, like a stolen photo, stolen face photos, recorded video, 3D face models with the skills of blinking and lip moving, 3D face models with

various expressions and so on. In this paper, we proposed a method of live face detection to resist the attack using a photograph.on what verification proof is provide to face verification system, such as a lifted photo, lifted face photos, recorded video, 3D face

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Survey on Distributed Digital Platform for Agricultural Supply Chain

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ABSTRACT

Block chains are now firmly established as a digital technology that combines cryptographic, data management, networking, and incentive mechanisms to support the verification, execution, and recording of transactions between parties. While block chain technologies were originally intended to support new forms of digital currency for easier and secure payments, they now hold great promise as a new foundation for all forms of transactions. Agribusiness stands to become a key beneficiary of this technology as a platform to execute 'smart contracts' for transactions, particularly for high-value produce. First it is important to distinguish between private digital currencies and the distributed ledger and block chain technologies that underlie them. The distributed and cross-border nature of digital currencies like Bit coin means that regulation of the core protocols of these systems by central banks is unlikely to be effective. Monetary authorities are focused more on understanding 'on-ramps' and 'off-ramps' that constitute the links to the traditional payments system rather than being able to monitor and regulate the currency itself. In contrast to the digital currency feature of block chain, the distributed ledger feature has the potential for widespread use in agribusiness and trade financing, especially where workflows involve many different parties with no trusted central entity.

Keywords-Agriculture, supply chain, BCT, Cryptography, etc.

I. INTRODUCTION

An increasing demand in society for greater information about food reflects the need for more transparency and the lack of trust. At the same time, more and more food products and beverages are branded and accompanied by a variety of certification schemes, with an increasing risk of fraud (selling unqualified product with high-quality labels or claims) and adulteration. In the current situation, much of the compliance data and information is audited by trusted third parties and stored either on paper or in a centralized database and these approaches are known to suffer from many informational problems such as the high cost and inefficiency of paper-based processes and fraud, corruption and error both on paper and in IT systems. These information problems, indicating that current transparency and trust systems have not been able to solve or at times even have exacerbated the problems of low transparency and trust in agricultural food chains, pose a severe threat to food safety, food

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Litter Detection Based on Faster R-CNN

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ABSTRACT

Cleanliness of city streets has an important impact on city environment and public health. Conventional street cleaning methods involve street sweepers going to many spots and manually confirming if the street needs to clean. However, this method takes a substantial amount of manual operations for detection and assessment of street's cleanliness which leads to a high cost for cities. Using pervasive mobile devices and AI technology, it is now possible to develop smart edge-based service system for monitoring and detecting the cleanliness of streets at scale. This paper explores an important aspect of cities - how to automatically analyse street imagery to understand the level of street litter. A vehicle equipped with smart edge station and cameras is used to collect and process street images in real time. A deep learning model is developed to detect, classify and analysis the diverse types of street litters such as tree branches, leaves, bottles and so on. In addition, two case studies are reported to show its strong potential and effectiveness in smart city systems.

Keywords: Smart City, Street Cleanliness.

I. INTRODUCTION

Urban street surface receives waste deposits from both natural and human sources, such as leaves, soil, sediment, scattered trash, illegal dumpling and so on. When the street cleaning service is ineffective, it could cause a negatively impact on city tourism, reputation, and economy. Furthermore, dirty street have also been recognized as potentially important contributor to air and water pollution. Researches have proved that if there is litter on the streets, people do not hesitate in throwing more litter.

However, if the streets are clean, people tend to think twice before throwing anything and end up not throwing the litter on streets. Therefore, cleanliness of city streets is particularly important as it has a significant effect on city's image and reputation, and on the quality of life for those who live and work in the city.

Currently, many cities have adopted various methods and made great effort to improve the cleanliness of their streets. For instance, New York city used an inspection program called Scorecard to

measure the cleanliness of city streets and sidewalks [23]. [20] proposed a cleanliness index for the city of Granada (South of Spain) to measure the level of cleanliness of the streets. In 2015, Imteaj et al. constructed an android based application for the city Dhaka, capital of Bangladesh. The user himself can

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Design and Implementing Brain tumor Detection Using Machine Learning Approach

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ABSTRACT

In this paper, we propose a brain tumor segmentation and classification method for multi-modality magnetic resonance image scans. The data from multi-modal brain tumor segmentation challenge are utilized which are co-registered and skull stripped, and the histogram matching is performed with a reference volume of high contrast. We are detecting tumor by using preprocessing , segmentation, feature extraction ,optimization and lastly classification after that preprocessed images use to classify the tissue .We performing a leave-oneout cross-validation and achieved 88 Dice overlap for the complete tumor region, 75 for the core tumor region and 95 for enhancing tumor region, which is higher than the Dice overlap reported.

I. INTRODUCTION

The detection and diagnosis of brain tumor from MRI is crucial to decrease the rate of casualties. Brain tumor is difficult to cure, because the brain has a very complex structure and the tissues are interconnected with each other in a complicated manner. Despite many existing approaches, robust and efficient segmentation of brain tumor is still an important and challenging task. Tumor segmentation and classification is a challenging task, because tumors vary in shape, appearance and location. It is hard to fully segment and classify brain tumor from mono-modality scans, because of its complicated structure. MRI provides the ability to capture multiple images known as multimodality images, which can provide the detailed structure of brain to efficiently classify the brain tumor. shows different MRI modalities of brain. To design a detection and diagnosis of brain tumor from MRI is crucial to decrease the rate of casualties. Brain tumor is difficult to cure, because the brain has a very complex structure and the tissues are interconnected with each other in a complicated manner. Despite many existing approaches, robust and efficient segmentation of brain tumor is still an important and challenging task. Tumor segmentation and classification is a challenging task, because tumors vary in shape, appearance and location. It is hard to fully segment and classify brain tumor from mono-modality scans, because of its complicated structure. So we overcome that problem classify the brain tissues tumor area.

Robust and efficient segmentation of brain tumor is still an important and challenging task. Tumor segmentation and classification is a challenging task,

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Data Security in Cloud Computing

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ABSTRACT

Data security has been consistent in being a major issue in information technology. In the cloud computing world, it becomes specifically critical as the data is situated in different places all over the world.

As per user's concerns about the cloud technology the important factors are privacy protection and data security. In both academics and industries, the topics in cloud computing have been checked by multiple techniques. For the future growth of cloud computing technology in industry, government and business the data security and privacy protection will become more crucial.

Data security and privacy protection challenges are similar to both hardware and software in the cloud architecture. This study is to analyze different security techniques and challenges from both software and hardware aspects to secure data in the cloud and focuses on improving the data security and privacy protection for the trust worthy cloud environment. In this document, we are preparing a relevant research analysis on the existing research work with reference to the data security and privacy protection techniques of cloud computing.

Keywords: Data security, Privacy Protection, Cloud Computing,

I. INTRODUCTION

Cloud computing has been emerged as the next generation paradigm in computation. In the cloud computing world, both applications and resources are delivered on demand over the Internet as services. Cloud is an environment of the hardware and software resources in the data centers that provide diverse services over the network or the Internet to fulfill user's requirements .The explanation of "cloud computing" as per the National Institute of Standards and Technology (NIST) states that cloud computing allows unique, convenient. Network access to a shared pool of configurable computing resources like servers, networks, applications, storage, and services and can be provisioned on priority and released with less management effort or service provider interaction on demand.

As per the description, cloud computing provides a convenient on-demand network access to a shared pool of configurable computing resources. Resources are identical to computing applications, network resources, platforms, software services, virtual servers, and computing infrastructure[2]

Cloud computing can be looked upon as a new computing archetype that can provide services on demand at a cheap cost. The three renowned and

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Masked Face Recognition and Body Temperature Detection

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ABSTRACT

So as to forestall the spread of CORONA otherwise known as COVID-19 infection, nearly everybody wears a veil during COVID-19 scourge. This makes the old facial acknowledgment framework ineffectual by and large, for example, network access control, face access control, facial participation, facial security checks at train stations, and so on Along these lines, it is exceptionally earnest to improve the acknowledgment execution of the current face acknowledgment innovation on the veiled appearances with internal heat level identification. Current progressed facial acknowledgment frameworks are planned dependent on profound realizing, which rely upon a more noteworthy number of face tests. Be that as it may, as of now, there are no covered face acknowledgment datasets. To this end, there are three kinds of concealed face datasets, including Masked Face Detection Dataset (MFDD), Real-world Masked Face Recognition Dataset (RMFRD) and Simulated Masked Face Recognition Dataset (SMFRD). These datasets are effectively accessible, in light of which different applications on veiled countenances can be created. So, we reason a dependable technique dependent on dispose of veiled locale and profound learning-based highlights so as to address the issue of concealed face acknowledgment measure with internal heat level identification.

I. INTRODUCTION

The COVID-19 infection can be spread through contact and surface contact, thusly, the biometric frameworks dependent on passwords or fingerprints can't be utilized further in the perspective on wellbeing. It is demonstrated that most germs are spread with our hands. In this way a contactless validation framework adequately lessens the danger of spread of disease. Face acknowledgment are more protected with no compelling reason to contact any gadget. Late investigations on COVID-19 has demonstrated that wearing a face veil by solid and contaminated populace diminishes significantly the transmission of this infection. Nonetheless, wearing the veil face causes the accompanying issues: network access control and face confirmation are become

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Flight Ticket Price Prediction Using Machine Learning

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ABSTRACT

Nowadays, airline ticket prices can vary dynamically and significantly for the same flight, even for nearby seats within the same cabin. Customers are seeking to get the lowest price while airlines are trying to keep their overall revenue as high as possible and maximize their profit. Airlines use various kinds of computational techniques to increase their revenue such as demand prediction and price discrimination. From the customer side, two kinds of models are proposed by different researchers to save money for customers: models that predict the optimal time to buy a ticket and models that predict the minimum ticket price. In this paper, we present a review of customer side and airlines side prediction models. Our review analysis shows that models on both sides rely on limited set of features such as historical ticket price data, ticket purchase date and departure date. Features extracted from external factors such as social media data and search engine query are not considered. Therefore, we introduce and discuss the concept of using social media data for ticket/demand prediction.

Keywords : Survey, Ticket price prediction, Demand prediction, Price discrimination, Social media.

I. INTRODUCTION

The airline industry is considered as one of the most sophisticated industry in using complex pricing strategies. Nowadays, ticket prices can vary dynamically and significantly for the same flight, even for nearby seats as given in paper[119-128] and paper [28-42]. The ticket price of a specific flight can change up to 7 times a day.The Cheapest available ticket for a given data gets more or less expensive over time.This usually happens as an attempt to maximize revenue based on following things-

1.Time of purchase patterns(i.e. last minute purchases are expensive)

2.Keeping the flight as full as they want.

The objectives of the project can broadly be laid down by following questions:

1. Flight Trends
2. Best time to buy
3. Verifying myths

From the customer point of view, determining the minimum price or the best time to buy a ticket is the key issue. The conception of "tickets bought in advance are cheaper" is no longer working. It is possible that customers who bought a ticket earlier pay more than those who bought the same ticket later. Moreover, early purchasing implies a risk of commitment to a specific schedule that

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Survey on Crop Suggestion based on Regional Soil Quality

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ABSTRACT

Agriculture is the major source for living for the people of India and also plays a major role in economy and employment. Soil is an important key factor for agriculture .There are several soil varieties in India.. In order to predict the type of crop that can be cultivated in that particular soil type we need to understand the features and characteristics of the soil type. The common difficulty present among the Indian farmers are they don't opt for the proper crop based on their soil necessities. Because of this productivity is affected. This problem of the farmers has been solved through precision agriculture. Machine learning techniques provide a flexible way in this case. Classifying the soil according to the soil nutrients is much beneficial for the farmers to predict which crop can be cultivated in a particular soil type. Data mining and machine learning are still an emerging technique in the field of agriculture and horticulture.

KEYWORDS: Agriculture, Machine learning, Soil, Classification

I. INTRODUCTION

India is one of the biggest producers of agricultural products and still has very less farm productivity. Productivity needs to be increased so that farmers can get more pay from the same piece of land with less labor. Many researches are being carried out, in order to attain an accurate and efficient model for crop prediction.

Data mining is a challenging technology in the field of agriculture. Nowadays data mining has been used in the field of agriculture for soil classification, wasteland management, and crop and pest management [1]. In assessed the association rules of affiliation methods in DM and applied into the soil science to anticipate the significant connections and gave association rules to different soil types in agriculture. The agriculture factors such as rain, weather, soil type, pesticides and fertilizers are the main responsible to increase the production. Crop cultivation depends on the nature and the nutrients of the soil increasing the cultivation of land which brings a loss of supplements present in the soil.

Machine learning is a field of computer science where new developments evolve at recent times, and also helps in automating the evaluation and processing done by mankind, thus by reducing the burden on human power. In simple terms, machine learning

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Survey on Text to Image Synthesis

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ABSTRACT

One of the most difficult things for current Artificial Intelligence and Machine Learning systems to replicate is human creativity and imagination. Humans have the ability to create mental images of objects by just visualizing and having the general looks description of that particular object. In recent years with the evolution of GANs (Generative Adversarial Network) and its gaining popularity for being able to somewhat, replicate human creativity and imagination, research on generating high quality images from text description is boosted tremendously.

Through this research paper, we are trying to explore various GANs architectures to develop a model to generate plausible images of birds from detailed text descriptions with visual realism and semantic accuracy.

Keywords: GAN, AI, ML

I. INTRODUCTION

GAN (Generative Adversarial network) :

GANs consists of two components- Generator and Discriminator which are constantly in touch with each other working in tandem. The generator generates images and the discriminator then assess those images and provide feedback to generator about the correctness of the generated image in comparison with real images of the same object. The two neural networks constantly compete with each other to become more accurate in their predictions. The generator creates new images based on the feedback provided by the discriminator and the discriminator is trained by providing real images. The generator improves to fool the discriminator and the discriminator trains itself to not get fooled by the generator. The basic structure of GAN is shown in Fig. 1.

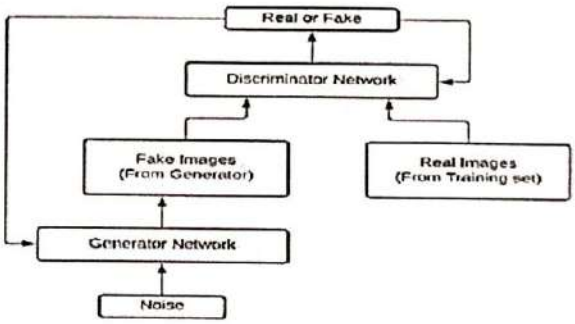

Fig. 1. Basic Structure of GAN

II. LITERATURE SURVEY

In 2014, Ian Goodfellow and his colleagues designed Generative Adversarial Network with the idea of

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A Survey on 3D Model Generation from Images

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ABSTRACT

3D models are used for a variety of domains including video games, movies, architecture, illustration, engineering, and commercial advertising. We have seen significant progress in 3D model generation and reconstruction in recent years. There are multiple approaches, or method to do it. We discuss about different approaches in this paper, such as 3D Generative Adversarial Network (GAN), Differentiable Interpolation-based Renderer (DIB-R), Hierarchical Surface Prediction. We also discuss advantages, and limitations of these approaches. In the end it shows the results produced by them.

Keywords: 3D Model, GAN, DIB-R, Image, Neural Net

I. INTRODUCTION

A. What is a 3D Modeling ? [9]

3D modelling is the process of using software to create a mathematical representation of a 3-dimensional object or shape. The created object is termed a 3D model and these 3-dimensional models are employed in a spread of industries. The 3D modelling process produces a digital object capable of being fully animated, making it an important process for character animation and lighting tricks. The core of a model is the mesh which is a collection of points in space. These points are mapped into a 3D grid and joined together as polygonal shapes, usually triangles or quads. Each point or vertex has its own position on the grid and by combining these points into shapes, the surface of an object is created.

B. 3D Models generation from Images

Images are 2D, and they do not have complex structure, they are just 2D matrices of pixel values. Images often contain objects from real world like a car, table, or a bird. These real-world objects are 3D, and can be represented in 3D graphics also, as we see in animated movies, and games. Creating 3D model manually is very time-consuming task, therefore automation is must. Hence, 3D Model generation from images(2D). We in this survey paper try to explain the progress being made in this area.

C. What is GAN ? [9]

A Generative Adversarial Network (GAN) has two neural net (Generator and Discriminator): The generator learns to generate plausible data. The generated instances become negative training

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A Survey on Smart Digital Health Care Record with Prediction of Health Condition

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ABSTRACT

Humans are known to be the most intelligent species on the earth and are inherently more health conscious. Since Centuries mankind has discovered various healthcare systems. To automate the process and predict diseases more correctly machine learning methods are attending popularity in research community. We need to implement machine learning methodologies to identify the best-predicted values related to the patients in their respected health condition and also need to analyze the previous health records. For that, we need to maintain a repository or the warehouse where we need to maintain digital data related to the patients and their treatment.

Keywords: Healthcare, Health Card, QR Code, Prediction, Methodology.

I INTRODUCTION

The main aim of this research paper is to store the overall health information of the patient in a Digital card. This card will consist of all the medication details, reports etc. of the patient .The implementation of the project has be done in Artificial Intelligence (Machine learning using python).

I.1 Machine Learning

Machine learning is the main background of this prediction process and the data we acquired from the medical application. This application details can be informed in the later sections and the information we gathered can be used for the machine learning models for better prediction of what is going to happen for the patient in future and what are the main constrains the patients have to follow if there are any problems with their health condition.[9][10]

I.2 Data Collection

We need to collect the data from some sources in our environment and in our circumstances. We need to create a repository which will be useful for maintaining the stability in gathering the information from other sources. In collection of information we may get noisy data and we need to remove them using pre-processing methodology. This process will maintain the stability and ambiguous information in the repository[6-9]

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IOT Based Smart Electric Meter

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ABSTRACT

Electricity plays a cardinal role in day to day life. The electrical energy consumption in India is the third biggest after China and USA with 5.5% global share in 2016. Due to manual work, our existing electricity billing system has major drawbacks. This system gives the information on meter reading, power cut and the alert systems for producing an alarm when energy consumption exceeds beyond the specified limit using IoT.This idea is being implemented to reduce the human dependency to collect the monthly reading and minimize the technical problems regarding billing process. From the electricity board section, the information regarding the bill amount, payment and the pre-planned power shut down details are communicated to the consumer. If the customer does not pay the bill in time, the user is informed through a message. In the already existing smart energy meter, it shows the energy consumed by the appliances from the date of installation of the energy meter and its corresponding rupees. In this proposed energy meter, the meter gives the energy consumed on daily basis, its corresponding rupees, billing details and payment using IoT. This system not only reduces the power cut issues and the labor cost for noticing the residential energy consumption in regular intervals but also increases the energy conservation with the help of alarm systems and the energy meter accuracy by reducing the billing error and the cost of maintenance.

Keywords—Arduino, GSM, IoT, energy consumption, human dependency, shut down, alert message, payment details, daily basis, alarm systems.

I. INTRODUCTION

Monitoring and keeping tracking of electricity consumption for verification is a tedious task today since manual meter reading and recording is in vogue. It is important to know from the customer view point that if one is charged fairly and according to the need. [2]

Automation of the system will allow users to monitor energy meter readings over the internet in the real-time. [2]

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Quantifiable Data Security Model for Cloud Computing Platform

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ABSTRACT

Whatever one public cloud, private cloud or a mixed cloud, the users lack of effective security quantifiable evaluation methods to grasp the security situation of its own information infrastructure on the whole. This paper provides a quantifiable security evaluation system for different clouds that can be accessed by consistent API. The evaluation system includes security scanning engine, security recovery engine, security quantifiable evaluation model, visual display module and etc. The security evaluation model composes of a set of evaluation elements corresponding different fields, such as computing, storage, network, maintenance, application security, and etc. In order to effectively manage the networks for administrators within limited time and energy, we are developing a hierarchical framework which detects the malicious attacks and prevent our data from that attack. Thus, in our application we are using two algorithms, firstly Intrusion Detection System (IDS) which is used to detect the attack and provide the information of the hacker to the administrator and the second algorithm used is named as Intrusion Prevention System (IPS) to prevent our data from the hacker. We are also going to retrieve the data which are changed by the hacker using support vector machine (SVM).

Keywords: Cloud-Computing, Security, IDS, IPS, SVM.

I. INTRODUCTION

With the continuous development of cloud computing technology, cloud has become one common method to create the different users' information infrastructure [1]. But as the cloud technology brings us very low-cost services and operation conveniences, it also caused that the information infrastructure of users is fragmented. The cloud users cannot know whether their cloud services are safe, and whether their data can be safely placed in different clouds. Currently, capturing and analysing the abnormal behaviour is one of the most critical issues in keeping a network, data centre or cloud under control. Firewall, Intrusion Detection System (IDS) and Intrusion Prevention System (IPS) are regarded as the most important devices for security management [2]. We will develop a hierarchical framework to perform high threat mining and ranking based on their processing urgencies, in turn to reduce the operating difficulties for the network administrators. We have seen that personal computer's data and the cloud data are

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Automated Website Development

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ABSTRACT

A website helps a business to grow by using different marketing strategies. This report describes a novel approach to develop a website by just providing the text (description of the website) or an image as input. Using Text Input, it will suggest template (screenshots) after identifying the theme of the site inferred from the input. Those templates are converted into code for further customizations for their personal use. Current problem was that a web developer would take more than 15 days only to just make the basic structure of a website. This issue is resolved by our work, which will generate the complete code of the webpage/ website in less amount of time. In this paper, it will tokenize each word to find their synonyms and then mapped it with root words for the theme identification and uses deep learning model to convert templates into code.

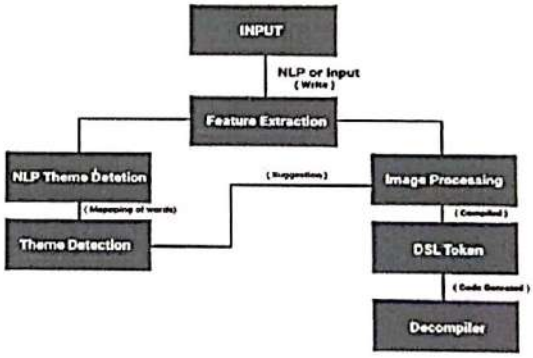
Keywords : Website, Automatic, code

I. INTRODUCTION

The process of implementing client-side software based on a Graphical User Interface (GUI) mock-up created by a designer is the responsibility of developers. Implementing GUI code is, however, time-consuming and prevent developers from dedicating the majority of their time implementing the actual functionality and logic of the software they are building. Moreover, the computer languages used to implement such GUIs are specific to each target runtime system; thus resulting in tedious and repetitive work when the software being built is expected to run on multiple platforms using native technologies. In this paper, we describe a model trained end-to-end with stochastic gradient descent to simultaneously learns to model sequences and spatio-temporal visual features to generate variable-length strings of tokens from a single GUI image as inpu

II. METHODS AND MATERIAL

The proposed system is done in various steps like text segmentation, tokenizing, part of speech tagging, word map and theme, suggesting, CNN, LSTM and decoder as show



- **Input Image and Text**
  User can upload images of UI to convert UI to code.

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IVA : An Intelligent Virtual Assistant System Implementation using Speech and Speaker Recognition

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ABSTRACT

Currently, many people use IOT-based voice recognition devices such as Siri by Apple, Alexa by Amazon and Echo from Google. Where there is a boost in IOT devices to the contrary, there is hardly any speech recognition software like Cortana that has very few desktop features. Another fall of these technologies is the security issue because it stores its data in the cloud which can be recovered by any technique and can be used improperly. To overcome above issues this paper proposes IVA, a voice-based intelligent virtual assistant comprising of speech recognition and speaker recognition technology specifically for windows operating system. IVA incorporates the ability to recognize the user's voice to check for security violations and also provide a personalized account to the end user. IVA firstly checks if the user is an authorized user or not and if user voice is detected successfully, then it opens user personalized account to perform some of the common tasks such as playing audio/video files, searching through the web, setting alarms and scheduler, etc.

Keywords : IVA, Speech recognition, Speaker verification, pyttsx3, MFCC, GMM, python 3.7.2, pyqt5, Windows OS.

I. INTRODUCTION

The term virtual assistant was coined in the 1950s, even prior to Siri, which was developed by Apple as a virtual assistant for Android. The term virtual assistant or virtual personal assistant is an application program capable of understanding natural human language, speaking natural language and completing an electronic task for the end user [5]. The main aim is to design a voice-based intelligent virtual assistant (IVA) that acts as a digital organizer to provide a variety of services to its master with the use of various machine learning algorithms, which accept voice input, process it and provide the desired output to the user.

This intelligence system is classified into three generations: First Generation based on Pattern Matching; Second Generation including techniques of Artificial Intelligence such as deep neural network; Third Generation indulges higher ordered,

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Fake Document and Image Detection

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ABSTRACT

In the recent times, the rates of cybercrimes have been increasing tremendously. It has been proven incredibly easy to create fake documents with powerful photo editing software. Also, social media has proven to be the largest producer of fake images as well. Various malpractices have also been on surge with the help of producing digitally manipulated fake documents. Detection of such fake documents has become mandatory and essential for unveiling of the documents/images-based cybercrimes. The tampered images and documents will be detected using neural network. The output of the system will distinguish original document from a digitally morphed document. The system will be implemented using Neural Networks.

Keywords : Artificial Neural Network; GLMC Features; Graphical User Interface; Machine Learning; Support Vector Machine.

I. INTRODUCTION

In the recent times the speed of cyber-crimes has been increasing tremendously it's been proven incredibly easy to make fake documents with powerful photo editing software Also social media has proven to be the most important producer of faux images also Various malpractices have also been on surge with the assistance of manufacturing digitally manipulated fake documents Detection of such fake documents has become mandatory and essential for unveiling of the documents/images based cyber-crimes The tampered images and documents are going to be detected using neural network The output of the system will distinguish original document from a digitally morphed document The system are going to be implemented using Neural Networks this is often an desktop application the rates of cyber-crimes are on a rise it's been proven incredibly easy to make fake documents with powerful photo editing software Documents and pictures are often scanned and morphed within minutes with the assistance of sort of software available On Investigation it States a foundation and it provides an answer to differentiate between original document and digitally morphed document Here the accuracy of system method has accuracy of 96 It is also possible to change metadata content making it unreliable here it's used as a supporting parameter for error level analysis decision . In, Xunyu Pan, Siwei Lyu proposed a scheme to detect the copy-move forgery in a picture, mainly by extracting the key points for extraction. The

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Implementation of WSN for Industrial Safety

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ABSTRACT

This paper provides a in effective study about the implementation of Wireless Sensor Network in Industrial environment to ensure the safety of the infrastructure and the employees. It also discusses the sensors as well as the console required for the smooth conduct of the project. The paper focuses on simplifying the implementation such that the project can be used in various industries and can be modified as per industrial requirement.

Keywords : Wireless Sensor Network,

I. INTRODUCTION

We live in growing industrial environment, year after year all industries are seeing immense growth. With the higher demand, production rates and manufacturing rates of all the industries are rising every year. To cope up with the high demand, industries have to do all kinds of adjustments. From expanding number of factories to upgrading to the latest machinery, year after year the growth is unstoppable.

But with this growth comes a larger demand of employees, and with huge number of employees working with high end machines, many accidents are prone to occur. Safety of the employees and the entire working environment is very important.

This project will check various environmental factors inside the work space and help the administration to ensure the safety of everyone.

II. THEORY

WSN: Wireless sensor network (WSN) can be called as a group of spatially dispersed as well as dedicated sensors that are useful for the purpose of monitoring and then recording the physical conditions of the environment and then centrally collecting the organized data.

WSN measures various kind of environmental conditions such as humidity, temperature, wind, sound, pollution levels, etc. The Wireless Sensor Network include interconnected nodes which can range from a few to even thousands.

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Voice Based Email for the Visually Impaired

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ABSTRACT

E -mails are the foremost reliable approach of communication over net, for causing or receiving some necessary information. However, there's a special criterion for humans to access the net and also the criteria are you must be able to see. A survey shows that there are more than 285 million visually challenged people around the globe. That is, around 285 million people which is unaware of a way to use net or E-mail. So, forgiving an equal standing to visually challenged folks we've got return up with this project plan that provides the client (user) with ability to send mails using voice commands without the need of keyboard or any other visual things. This system can be used effectively by handicapped and illiterate people as it is based on TTS, STT CONVERSIONS and IVR technologies.

Keywords : TTS, STT CONVERSIONS and IVR

I. INTRODUCTION

The Internet is a vast network which connects millions across the globe in various ways. So, talking about communication over the internet the first thing that comes to thought, is, E-mails. E-mails are extensively used form of online communication, both formally and informally as well. Despite social media, E-mails being the very traditional form of communication have still been the best to date. But the purpose of any service is to serve all mankind, and hence, E-mails should also be such that, they can be easily used by people from all races of life. But Traditional E-mail Systems are accessible to several but the visually impaired class on the globe, and also various other handicapped people. So, in order to remove this drawback, An E-mail System for the visually impaired individuals would be an incredible breakthrough. Hence, this application has been thought of. Talking of the application, the application will be a web-based E-mail System for visually impaired people. Using Interactive voice response (IVR), which would enable everyone to control their own mail accounts using their voice only and also, they would be able to read, send, and perform all the other user tasks which are offered by the traditional E-mail Systems. The system will prompt the user with voice commands to perform certain actions and the

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Helmet Detection on Two Wheeler Riders using Machine Learning and Automatic Licence Plate Recognition for Identification

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ABSTRACT

Motorcycle accidents are growing throughout the years in all the countries, as there is a difference in social, economical and the transport conditions differ from place to place. The motorcycle is one of the prominent means of transport used by middle-class people. Wearing a helmet is the main safety equipment of motorcyclists, which might not be followed by all drivers. The existing video surveillance-based methods are passive and require significant human assistance. In general, such systems are infeasible due to the involvement of humans, whose efficiency decreases over a long duration. Automation of this process is highly desirable for reliable and robust monitoring of these violations as well as it also significantly reduces the number of human resources needed.

This project aims at the prevention of accidents by automatically identifying the drivers not wearing helmets and storing their respective License Plates for future investigation. For this, we are using a classifier based on FasterR-CNN object detection architecture.

Keywords : Faster R-CNN, Motorcycle, OpenCV, Tensorflow, Object Detection

I. INTRODUCTION

Two-wheel drive is a popular means of transportation in almost every country. However, there is a high risk involved due to limited protection. To reduce the risk involved, it is highly desirable for cyclists to use a protective helmet. Recognizing the use of helmets, governments have made it a crime to punish those who ride bicycles without a helmet and to use hand-to-hand tactics to catch criminals.

However, existing video viewing methods do nothing and require significant personal assistance. Often, such programs are not possible due to human involvement, whose performance decreases over time. The automation of this process is highly desirable in reliable and robust recognition of these violations and greatly reduces the amount of human resources required. Also, many countries use systems that include surveillance cameras in public places. Therefore, the solution is to find offenders using existing infrastructure and save money.

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Blockchain Based Covid and Humanitarian Aid Fund Manager

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ABSTRACT

Donors have no hope of how money is utlised that they have donated. Currently, blockchain technology is in use in various fields. Blockchain technology lets you process the donation and transparent financial transactions. It's a single donation tracking platform that will track every information about donations, transactions and sponsors. This paper is processing the definition of implementation of a donation tracking platform based on blockchain technology. The program provides transparency calculation of service providers, service bases and recipients based on blockchain technology, it's a free platform which provide for public offering, empowering public users and sponsors to track and monitor where, when and to whom the financial aid is being provided.

I. INTRODUCTION

The increase in corruption and apathy in various organizations has led to a decline in public confidence in these organizations. One of these organizations is charitable organizations that are intended to help others but have the same problem. Here the blockchain is introduced to create a digital online donation platform where all donors can easily donate and can track where donations are available and know how to use them at a lower level. This will increase people's faith in these organizations. Here the user has the auditing options and a smart contract system is presented here which is intended to automate, control or document events that are legally relevant in terms of the agreement. The primary objectives are to reduce mediation, mediation and enforcement measures, fraud losses and the reduction of risk and risk variations.

II. METHODOLOGY

A. Proposed System:

In the current system, the problem is that. No tracking of financial records, making things public

- Taxpayers do not know how their money is spent
- Fraudulent authorities exploit corruption
- Corruption by financial management and mediators.

These problems prevent taxpayers from paying due taxes or contributing to the campaign, as they are unsure of the legitimacy of the authorities in this series.

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Machine Learning Based Botnet Detection

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ABSTRACT

Botnet term was coined when multiple networks of bots came into existence. It is a number of Internet-connected devices, which run single or multiple bots. Botnets can be used to perform Distributed Denial-of-Service attacks, sending spams, and allowing attackers to gain unauthorised access on connections Command and control software is used by the Owner (BotMaster) to control the botnet. This paper discusses the accuracy of the prediction of Botnet detection using different models.

Keywords - Botnet, XGBoost, NaiveBayes, DDOS, Decision Tree, Random Forest, Network Traffic.

I. INTRODUCTION

A bot is an automated program which runs over the internet, some run automatically, while some run when they are triggered by specific input. Internet connected devices are infected with a piece of software that is bot. These internet connected devices are nothing but the botnet. After infection, these internet connected devices steer the instruction commanded by the owner of Botnet known as Bot Master/Bot Herder in 4 phases.

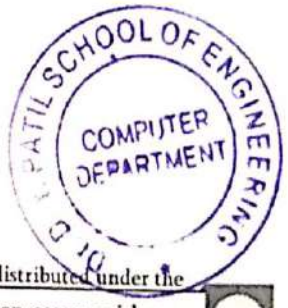
Following are the phases of the botnet infection:

Phase 1 Infection Initialization

A- "Social media" posts targeted by cybercriminal, In the first instance cybercriminal will post a malicious link on social media websites like hoax advertisements, shammed icons etc. When users perform any action on these websites, their action proved to be erroneous, as the current page is redirected to a malicious website, where the software gets installed which was already planted by the BotMaster.

B- "Infection method" approach is followed by the cybercriminals. In this "Email Phishing" tactics are being used to lure users on malicious websites as the user gets redirected when a link is being clicked, and their system gets compromised.

C- "Email Attachments" cybercriminals embody malicious pieces of software with an email, which gets downloaded once clicked and infects the whole system.



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Implementation Hand Sign Detection and Recognition with Help of Machine Learning

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ABSTRACT

Addressing the issues of People with Hearing and Vocal Impairment through a single aiding system is a tough job. A lot of work in modern day research focuses on addressing the issues of one of the above challenges but not all. The work focuses on finding a unique technique based on the machine learning that aids the mute by letting them hear what is represented as text and its sound. The proposed system achieved the technique that takes the sign image through a web camera and applies to the image processing then analysis what exactly want to the mute people at end the text available to voice signals. All these three solutions were modulated to be in a single unique system. All these activities are coordinated using the Ubuntu system using python. The vocally impaired people are helped by the process in which the image to text and text to speech is given using machine learning.

Keywords: Image Processing, Tensor flow Algorithm, CNN Algorithm Process, Languages and compilers, Classification, Verification.

I. INTRODUCTION

Dumber people can simply tilt the message by sign language which could not be understandable by other people. By this system we provide the solution for blind, deaf and dumb people. For blind people the image is converted to voice by using Tesseract software, the deaf people received their content by message as soon as the opposite person speaks out it displayed as a message. The dumb persons conveyed their message through text instead of sign language which is delivered via e speak. We have provided necessary steps to resolve the problems of those masses. Approximately 285 million people are judged to be visually impaired worldwide in which 39 million are blind and 246 are said have low vision. Approximately 90% of this world's vocall impaired is from the dispirited income people and 82% of people living with blindness aging persons and above. The numbers of people visually impaired from eye related diseases have been brought down in the past 20 years according to global estimated

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Smart Trolley with Advance Billing System

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ABSTRACT

The shopping centre is a spot where individuals get their regular necessities. In shopping malls, there has been an emerging market for fast and simple payment of bills. Very sometimes, shoppers are dissatisfied with finding the items on the shopping list while shopping in a store and no help is required. We have developed a smart trolley with a smartphone app to solve these issues. This paper offers an interface to help consumers locate the product's location. It also offers a consolidated and automatic billing system using NodeMCU's barcode scanner. Super markets will be issued with a barcode for each shopping mall commodity, to distinguish its type. A Product Identification System (PID) containing NodeMCU, the barcode reader, is used for each shopping cart. Purchasing product details on the shopping cart can be read by a barcode reader and presented in the mobile app that is linked to the device. The complete bill is passed to the PC by the processor at the billing counter.

Keywords : billing trolley, barcode, nodeMCU, shopping.

I. INTRODUCTION

Since the dawn of civilization, people have continually produced creativity to support their demands. More independence can be the underlying explanation for success of creativity and this contributes to developing assignments and making them smaller and easier on a daily basis. Shopping is one crucial activity for individuals to expend the highest measure of energy. The shopping centre is a place where people get their everyday needs from food supplies, clothes, electrical equipment and so on. Most of the time clients have difficulties with the unspecific details concerning the object marked down and the abuse of the counters' superfluous time. Each grocery store and supermarket in this revolutionary world utilises shopping trolleys with a particular end purpose to help consumers pick and store the things they expect to purchase. Customers normally buy the necessary goods and put them in their carts and wait for bill payments at the counters thereafter. The paying of bills at the counters is a very troublesome and time-consuming procedure that raises the number of people at the counters. As demonstrated by a survey undertaken by the US Department Corporation, individuals regularly spend 1.4 hours

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Emotion Detection to Prevent Suicide

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ABSTRACT

India, a land of marvels, is outstanding in many aspects, its culture, ecosystem, etc. Sadly, it also ranks among the top countries in the world to have an annual suicide rate. Suicide might be considered as one of the most serious social health problems in the modern society. Suicidal ideation or suicidal thoughts are people's thoughts of committing suicide. It can be regarded as a risk indicator of suicide. India is among the top countries among in the world to have annual suicide rate. Objective of Face Emotion Recognition (FER) is identifying emotions of a human for reduce the suicide rate. This system involves extraction of facial features, and threshold detection of stress using emotions expressed through face using the Convolutional Neural Network (CNN) algorithm. This system is basically used to classify positive and negative emotions and detects the stress based on usual threshold value.

Keywords: Suicide rate, Emotions, Convolutional Neural Network.

I. INTRODUCTION

Suicide is an important issue in the Indian context. More than one lakh (one hundred thousand) lives are lost every year to suicide in our country. In the last two decades, the suicide rate has increased from 7.9 to 10.3 per 100,000. There is a wide variation in the suicide rates within the country. The southern states of Kerala, Karnataka, Andhra Pradesh and Tamil Nadu have a suicide rate of > 15 while in the Northern States of Punjab, Uttar Pradesh, Bihar and Jammu and Kashmir, the suicide rate is < 3. This variable pattern has been stable for the last twenty years. Higher literacy, a better reporting system, lower external aggression, higher socioeconomic status and higher expectations are the possible explanations for the higher suicide rates in the southern states.

In 2016 the number of suicides in India had increased to 230,314. Suicide was the most common cause of death in both the age groups of 15-29 years and 15-39 years. About 800,000 people die by suicide worldwide every year, of these 135,000 (17%) are residents of India, a nation with 17.5% of world population.

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Online E-Voting System using Blockchain Technology

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ABSTRACT

India is the world's largest democracy with over one billion in population; India has over 668 million voters and 543 parliamentary constituencies. India is the largest democracy in the world. Voting is the bridge of government and governance. In recent years, the technology used in the voting process has been given a renewed focus. There are many security problems in the current voting system, and even simple security features are difficult to prove. There are many concerns about a voting system that can be proven right. There are some reasons why an electronic system is being used by the government to increase elections and reduce electoral expenses. There is still some scope for electronic voting systems, because there is no way to identify whether or not the user is authentic and to secure electronic voting machines from misconceptions by the electronic voting scheme. In order to increase safety and transparency between the users, the proposed system will develop a compatible high security voting machine with the help of Block-chain technology.

Keywords: Electronic Voting System, Voter ID, Security, Block Chain, Vote.

I. INTRODUCTION

Voting, whether traditional ballet based or electronic voting (e-voting), is what modern democracies are built upon. In recent years' voter apathy has been increasing, especially among the younger computer/tech savvy generation. E-voting is pushed as a potential solution to attract young voters. For a robust e-voting scheme, a number of functional and security requirements are specified including transparency, accuracy, auditability, system and data integrity, secrecy / privacy, availability, and distribution of authority. A distributed network consisting of a large number of interconnected nodes supports Block-chain technology. Each of these nodes has their own copy of the distributed ledger that contains the full history of all transactions the network has processed. If the majority of the nodes agree, they accept a transaction. This network allows users to remain anonymous. A basic analysis of the block-chain technology suggests that it is a suitable basis for e voting and it could have the potential to make e-voting more acceptable and reliable.

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A Framework for Analyzing Real-Time Tweets to Detect Terrorist Activities

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ABSTRACT

Terrorist organizations use different social media as a kind of tool for spreading their views and influence general people to join their terrorist activities. Twitter is one of the the most common and easy way to reach mass people within short time span. We have focused on the development of a system that can automatically detect terrorism-supporting tweets by real-time analyzation. In this system, we have developed a front-end system for real-time viewing of the tweets from twitter that are detected using this system. We also have compared the performance of the two different machine learning classifiers, Support Vector Machine (SVM) and Multinomial Logistic Regression and found that the first one works better than the second one. As our system is highly dependent on the data, for more accuracy we added a re-train module. By using this module wrongly classified tweets can be added to the training dataset and can train the whole system again for better performance. This system will help to ban the terrorist accounts from twitter so that they can't promote terrorism, their views or spread fear among general people in society.

Keywords—Social Media, Twitter, Terrorism, Real- Time Tweets, Machine Learning

Problem Statement: A Framework for Analyzing Real-Time Tweets to Detect Terrorist Activities.
The function of twitter data crawler module is to crawl real-time tweets from Twitter using Twitter Streaming API. The storage module stores the tweets temporarily.
Tweet classification module predicts the category of the tweet. The output module shows the output of the system. The training module builds the classification model which is used to predict the category of each tweet.

I. INTRODUCTION

Internet technology has a lot of benefits. It is also recognized as the fundamental human right. The Internet has also proven to be highly dynamic means for the communication. One of the biggest technologies of the Internet is our social media technology. Social media comes in many forms

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Advanced Driver Assistance System for Autonomous Vehicle

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ABSTRACT

Autonomous vehicles are increasing day by day and have become more important as several techniques and sensors being applied for vehicle control. Autonomous vehicles, Intelligent and Advanced Driving Assistant Systems are promising and reliable solutions to enhance road safety, traffic issues and passengers' comfort. As increasing safety of the people and reducing road accidents and thereby saving lives is one of important concern in the context of Advanced Driver Assistance Systems. The most complex and challenging task of autonomous vehicles is road lane detection and road boundaries detection. Lane detection is the most difficult problem because of the varying road conditions. Such applications require advanced algorithms that demand powerful computers with high speed processing capabilities. Keeping intelligent vehicles on the road until it reaches its destination, remains a great challenge in some cases, particularly when someone is driving at high speed. The very first task in autonomous vehicles is the navigation that is based on system vision which will acquire RGB images of the road for advanced processing. The second task is the dynamic controller of the vehicle according to its position, speed and direction. In this paper we did the survey of various approaches and the algorithm techniques.

Keywords : Advanced Driving Assistant Systems, lane detection, Autonomous road vehicles.

I. INTRODUCTION

At present, the number of vehicle owners is increasing and the cars with autonomous driving function have attracted more and more attention. Self-driving vehicles are expected to outnumber conventional vehicles by 2050, most of them capable of autonomous driving at all times. Fully self-driving vehicles projected to hit widespread adoption by 2035 . Society of Automotive Engineers (SAE) classifies full automation as vehicles able to (a) Complete a journey from point A to point B without any input from the driver beyond setting the destination, (b) Drive at least as well as an average person, on any road, adhering to all the traffic laws of its time and (c) Handle any extreme situation without the driver taking over, thus foregoing the need to include any manual controls, i.e. a wheel and pedals.

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Detection of Lungs Infection Using Convolutional Neural Network

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ABSTRACT

Many countries are challenged by the medical resources required for COVID-19 detection which necessitates the development of a low-cost, rapid tool to detect and diagnose the virus effectively for a large numbers of tests. Although a chest X-Ray scan is a useful candidate tool the images generated by the scans must be analyzed accurately and quickly if large numbers of tests are to be processed. COVID-19 causes bilateral pulmonary parenchymal ground-glass and consolidative pulmonary opacities, sometimes with a rounded morphology and a peripheral lung distribution. In this work, we aim to extract rapidly from chest X-Ray images the similar small regions that may contain the identifying features of COVID-19. This paper therefore proposes a COVID-19 detection model based on Convolution Neural Network for X-Ray image segmentation.The model begins by taking input image, it extract features of the image using CNN which further shows the prediction whether it is covid positive or covid negative. Finally, the model begins a classification and prediction process with a fully connected network formed of several classifiers. model explains an integrated bio-informatics approach in which different aspects of information taken from different data sources are put together to form the user friendly platforms for physicians and researchers. The main precedence of the Artificial Intelligence based platforms is to increase the process of diagnosis and the treatment of the COVID-19 disease.

Keywords : Covid-19, Deep Learning,Convolution Neural Network, Image Processing, X-Ray

I. INTRODUCTION

Due to the limited diagnosis tools available, many countries are only able to apply the COVID-19 test for a limited number of citizens. Despite the great efforts to find an effective way for COVID-19 detection, the required medical resources in many countries represent a big challenge. Accordingly, there is an urgent need to identify a low-cost and rapid tool to detect and diagnose COVID-19 effectively.

COVID 19 is an infectious illness triggered by the recently identified coronavirus virus. It was not understood until the outbreak in Wuhan, China, started in December 2019. The most frequent signs of COVID-19 include fever, tiredness, and dry cough. Pneumonia is a type of acute respiratory infection that

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Forensic Aspects of Flash Memory and Retrieval of Deleted Information

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ABSTRACT

Flash memory devices are considering efficient storage units; thus, it is producing tremendous demands for the usage of obtrusive memory devices. One of the severe problems that forensic investigators face is to remove deleted information from flash memory devices, as some of the flash memory machines prevent the reduction of eradicating data using the standard rhetorical techniques. This is to be taken into consideration by a study of the physics of flash retention, the development of trendy transition, layers, and the file systems that support these devices. It then regulates forensic experiments on various types of flash-based data-storage medium and encapsulates the results of each media. The paper also refers to the search for various practices to be applied to flash storage media, which helps to enable them to retrieve deleted information with the use of standard forensic techniques. The investigation includes the preservation of the organization, the search for digital indication, and the renovation of digital events. The focus of the examination is on the renovation of events using evidence so that suggestions can be developed and tested. In real world, the receiver of message needs guarantee that the message belongs to the sender and he should not be able to reject the establishment of that message.

Keywords : Forensics Investigation, AES Encryption, Digital Forensics Model, Digital Signatures, Flash Devices

I. INTRODUCTION

Forensic investigation is that the assembling and analysis of all crime-related physical proof so as to come to a assumption a couple of suspect. Investigators can check up on computers, or other technology to determine however against the law took place. rhetorical are the scientific ways accustomed solve a crime. rhetorical investigation is the gathering and analysis of all crime-related physical evidence in order to come to a conclusion about a suspect. Investigators will look at blood, fluid, or fingerprints, residue, arduous drives, computers, or other technology to establish how a crime took place. This is often a general definition, though, since there are a number of various sorts of forensics. A forensic accounting investigation aids the victims of fraud or monetary crimes. conjointly called financial investigation, this sort of study uses intelligence-gathering techniques, accounting, business, and communication skills to produce proof to attorneys concerned in criminal and civil investigations. They investigate by hairdressing

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Understanding Customer Behaviour in Shopping Mall by Indoor Tracking and QR Identification

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ABSTRACT

The prosperity of various indoor data tracking technologies makes possible for the large collection of tracking data in indoor spaces such shopping malls. Much of the focus has been on several fundamental problems such finding the ideal location, indoor shopping mall model, products requirements and understanding the patterns of shopping behavior of customers to facilitate higher growth in sales and to analyze strategies to efficiently manage the customer data, this paper attempts to analyze customer behavior from a unique indoor tracking data, which will promote the convergence between various applications and the underlying data. In particular, this paper uses the alternative method for indoor tracking and customer data by using QR code technology which uniquely differentiates each customer, collectively stores data and provides organized purchased product data, wherein we cluster users into several groups and summarize the most characteristic behaviors of each cluster. Last but not least, we analyze customer's individual behaviors through two aspects: 1) the K-means clustering algorithm is used to reveal concentrated region for the attributes required to analyze and 2) a summary of all the purchase data classified into categories required by user are generated.

Keywords : QR code, K-means clustering, indoor tracking.

I. INTRODUCTION

In recent years, the data mining field has become a very important concept in business and marketing sector. One such sector is the shopping malls and complexes which require the analysis and understanding the customer purchase pattern and behavior towards the products. This paper aims to provide a concrete solution to analysis and tracking of customer behavior and its analysis using machine learning. Although a considerable amount of research has focused on the management [1] and analysis of indoor tracking data [2], we still have a relatively limited understanding of the customer to become the loyal consumer behaviors in an indoor space (e.g., a shopping mall). To fulfill this crucial void, in this paper, we aim to introduce a unique indoor tracking technique with the help of QR code technology. Both the data and relevant analysis can serve as the building blocks of future study and applications which

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Virtual Painting with OpenCV using Python

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ABSTRACT

In modern technologies video tracking and processing the feed has been very essential. This processed data can be used for many research purposes or to express a particular output on a particular system. There are various methods for processing and manipulation of data to get the required output. This paint application is created using OpenCV module and python programming language which is an apex machine learning tool to create an application like this. Given the real time webcam data, this paint-like python application uses OpenCV library to track an object-of-interest (a bottle cap in this case) and allows the user to draw by moving the object, which makes it both awesome and challenging to draw simple things.

Keywords : Machine learning, OpenCV, Morphing Techniques, Human-Computer Interactions, Air Writing.

I. INTRODUCTION

OpenCV was launched in August 1999 at the Computer Vision and Pattern Recognition conference (and so turns 17 years old at the publication of this book). Gary Bradski founded OpenCV at Intel with the intention to accelerate both the research and use of real applications of computer vision in society. OpenCV has nearly 3,000 functions, has had 14 million downloads, is trending well above 200,000 downloads per month, and is used daily in millions of cell phones, recognizing bar codes, stitching panoramas together, and improving images through computational photography.

OpenCV is at work in robotics systems—picking lettuce, recognizing items on conveyor belts, helping self-driving cars see, flying quad-rotors, doing tracking and mapping in virtual and augmented reality systems, helping unload trucks and pallets in distribution centres, and more—and is built into the Robotics Operating System (ROS) [1]. It is used in applications that promote mine safety, prevent swimming pool drownings, process Google Maps and street view imagery, and implement Google X robotics, to name a few examples.

OpenCV has been re-architected from C to modern, modular C++ compatible with STL and Boost. The library has been brought up to modern software development standards with distributed development on Git. Computer vision is an interdisciplinary scientific field that deals with how computers can be made to gain high-level understanding from digital images or videos. From the perspective of engineering,

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Search Engine Optimization and Report Generator

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ABSTRACT

In this project, we will be working on creating a fully automated SEO report generator based on the guidelines given by the search engines (Google/Bing/ Gropher) and create an indexing chart by going through the source code of the given website and ranking it in aspects of performance, SEO, best practices and availability. The secondary objective of the project is to recommend keywords based on the given website description (meta description tag from HTML file). To create the report we will need to rank the result that comes up after searching someone's name or their website and categorize them into three categories Good, Bad, and Critical. These can be flagged to the administrator team for content removal. For categorization, we will be building upon the Compromise NLP engine based on NODE JS environment.

Keywords : SEO, Automation, Selenium, Pagespeed Insight, Text classification

I. INTRODUCTION

A. Search Engine Optimisation

Search Engine Optimisation SEO stands for "search engine optimization." In simple terms, it means the process of improving your site to increase its visibility for relevant searches. The better visibility your pages have in search results, the more likely you are to garner attention and attract prospective and existing customers to your business.

B. How does SEO work?

Search engines such as Google and Bing use bots to crawl pages on the web, going from site to site, collecting information about those pages, and putting them in an index. Next, algorithms analyze pages in the index, taking into account hundreds of ranking factors or signals, to determine the order pages should appear in the search results for a given query.

Search ranking factors can be considered proxies for aspects of the user experience. Our Periodic table of SEO factors organizes the factors into six main categories and weights each based on its overall importance to SEO. For example, content quality and keyword research are key factors of content optimization, crawling ability and mobile-friendliness are important site architecture factors.

The search algorithms are designed to surface relevant, authoritative pages and provide users with an efficient search experience. Optimizing your site and content with these factors in mind can help your pages rank higher in the search results.

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Prevention of Phishing Attacks on Online Voting System Using Visual Cryptography

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ABSTRACT

The aim of Voting System using Visual Cryptography is to provide facility to cast for critical and confidential decisions of internal corporate. It provides the flexibility of casting vote from any remote place. The confidentiality of the election is maintained by applying the appropriate security measures so that the voter can vote for any participating candidate but only if he logs into the system by entering the correct password which is generated by merging the two shares using Visual Cryptography scheme. The administrator is responsible for sending the shares, 1st share to voter email id before election and 2nd share will be available in the Voting System for his login during election. The voters get the secret password to cast his vote by the combination of share 1 and share 2 using Voting Cryptography. Phishing is an attempt by an individual or group which aims to get personal confidential information from unsuspecting victims. Internet voting focuses on security, privacy, and secrecy issues, as well as challenges for stakeholder involvement and observation of the process.

Keywords : Authentication, Visual Cryptography, Image captcha phishing, Phishing, Open CV Library Algorithm, Online Voting.

I. INTRODUCTION

Due to rapid increase in the internet usage, sharing of information on the internet has started, however they are unaware that the network on it they are sharing files is secure or not. Thus, data security becomes a very serious issue these days [9]. Phishing is identified as a significant security threat known is phishing [12-13] every moment a new technique for doing fraud is being increased. Thus, the security in these cases should be elevated and should not be manageable with implementation. Now a days, most applications are safe with their underlying system. Phishing is identified as fraud that steals identification and personal data of people [10]. many information security techniques have been developed to protect information from hackers that includes Steganography, Cryptography and other encryption techniques. Steganography techniques is applied on any style of digital media like text, video, audio or footage. Visual cryptography and Secret Image Sharing are cryptography techniques that are used for materials, matter footage, and written

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Malaria and Dengue Disease Prediction Based On Blood Cell Image Using Machine Learning

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ABSTRACT

The health care environment is found to be rich in information, but poor in extracting data from the knowledge. This is often due to the shortage of effective analysis tool to get hidden relationships and trends in them. By applying the machine learning algorithms and techniques, valuable knowledge are often extracted from the health care system. Malaria and Dengue fever have condition affecting the structure and functions of body and has many root causes. We tend to area unit exploitation Deep Learning algorithms to extend the accuracy of Malaria and Dengue Disease prediction System. We also expand this technique to research the actual area to maximum patient were health is weak based on hospital patient data. It is enforced as desktop application during which user submits the heterogeneous data like image of blood cells symptoms. It retrieves hidden information from stored database and deep learning model and compares the user values with trained data set.

Keywords- Machine learning, Disease prediction, Area detection, Malaria, Dengue

I. INTRODUCTION

Welcome to the AI for Social Good Series, where we will be focusing on different aspects of how Artificial Intelligence (AI) including with popular open-source tools, technologies and frameworks are getting used for development and betterment of our society. "Health is Wealth" is probably a clichéd quote yet very true! During this system, we will check out how AI are often leveraged for detecting malaria, a deadly disease and therefore the promise of building a low-cost, yet effective and accurate open-source solution. The intent of the system is two-fold understanding the motivation and importance of the deadly disease Malaria and Dengue and therefore the effectiveness of deep learning in detecting Malaria and Dengue.

A major challenge facing healthcare organizations (hospitals, medical centres) is the provision of quality services at affordable costs. Quality service implies identification of diagnosing patients correctly and administering treatments that are effective. Poor clinical choices will lead to disastrous consequences

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College Enquiry CHATBOT using RASA

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ABSTRACT

Nowadays, many people are using smartphone with many new applications i.e., technology is growing day by day. A chat bot has information stored in its database to identify the sentences and making a decision itself as response to answer a given question. The college enquiry chat bot will be built using algorithm that analyses queries and understand user's message. This chat bot is implemented using RASA. Rasa is an open-source framework for building AI bots which consists of two components: Rasa NLU and Rasa core. Rasa core is the component which handles the dialog engine for the framework and helps in creating more complex chatbots with customization. Rasa's NLU helps the developers with the technology and the tools necessary for capturing and understanding user input, determining the intent and entities. To design a College Enquiry Chatbot for Students to solve their quires within few minutes. Hardware requirements are i3 processor-based computer and 2GB-RAM. Software requirements include Rasa and Python 3.6 or higher. The aim is to implement a chatbot which can resolve student's queries, search the result for query and give the solution. The chatbot will handle the queries, ultimately reducing the human effort.

Keywords : Machine Learning, Human-Computer Interaction, Rasa

I. INTRODUCTION

These days, we see the talk bots wherever Chatbots are the wellspring of answers to the client's inquiries in a specific space where it is working.

Visit bots are the wellspring of answers to the client's inquiries. The requirement for school request framework emerges because of different reasons which include: the moderate idea of school site, an outcast would not realize where to look for a specific snippet of data, hard for the individual external school's area to remove data. The school enquiry framework will give the reaction by summing up the question and afterward yield answers, it additionally gives particular data what the client needs.

Rasa is an open-source system for building AI bots which comprise of two parts: Rasa NLU and Rasa center.

Rasa center is the segment which handles the exchange motor for the system and helps in making more unpredictable chatbots with customization. Rasa's NLU assists the engineers with the innovation

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Automatic Answer Sheet Checker

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ABSTRACT

Nowadays online tests and examinations are becoming popular to reduce the burden of the examination evaluation process. The online exams include either objective or multiple-choice questions. However, subjective-based questions and answers are not involved due to the evaluation process complexity and efficiency of the evaluation process. An automatic answer checker application that checks the written answers and marks the grades similar to a human being will be more helpful for universities and academic institution. The current online exams are conducted and evaluated on machines which can contain only objective questions and there is no provision to extend these into subjective questions. In order to overcome the problems, Artificial Intelligence (AI) based software application is built to check subjective answers by allocating marks to the user automatically, by checking the template answers in the database and the answers written by the user.

The proposed system is based on keyword search algorithm that searches keyword provided by admin in the database and stemming algorithm that is used for linguistic normalization to evaluate. As a result of this artificial intelligence-based online answer evaluator, the evaluator's time and energy can be conserved with improved work efficiency.

Keywords : Artificial Intelligence, AI, Software, Database, Keyword Search Algorithm, Stemming Algorithm

I. INTRODUCTION

The answer sheet is widely used for student performance in exam in school and college. The main approach is to evaluation is efficient and reliable. An automatic answer sheet checker checks the answer sheet and written mark as similar to human being. This software is built to check the subjective answer. The system consists of in build artificial sensor that verify answer and allocate marks according as good as human being accessing large number of handwritten answer sheet is relatively time-consuming task there is an intense need of speed up and enhance a process of rating handwritten words while maintaining cost effectiveness. It is relatively inexpensive answer written by hand. The primary means of testing the student on state assessment of reading compression motivation of these system is mainly always we have

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Bank Locker Security System using Machine Learning with Face & Liveness Detection

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ABSTRACT

Ensuring the security of transactions is currently one of the biggest challenges facing banking systems. The use of biometric authentication of users attracts huge sums of money from banks around the world due to their convenience and acceptance. Especially in offline environments, where face images from ID documents are matched to digital selfies. In fact, comparisons of selfies with IDs have also been used in some broader programs these days, such as automatic immigration control. The great difficulty of such a process lies in limiting the differences between comparative facial images given their different origins. we propose a novel architecture for cross-domain matching problem based on deep features extracted by two well-referenced Convolutional Neural Networks(CNN). The results obtained from the data collected, called Face Bank, with more than 93% accuracy, indicate the strength of the proposed face-to-face comparison problem and its inclusion in real banking security systems.

Keywords : Convolutional Neural Networks(CNN), Face Bank, automatic immigration control, Digital selfies, Face-to-face comparison problem.

I. INTRODUCTION

Face recognition is the process of identifying something that has already been discovered as a known or unknown face. Often the problem of facial recognition is confusing and the problem of facial recognition Face recognition on the other hand determines whether a "face" is a well-known, or unknown, person who uses this purpose facial information to verify this facial expression.

FACE AWARENESS:

DIFFERENT METHODS OF FACE RECOGNITION:

There are two main methods of facial recognition: Geometry (element supported) and photometric (based on visual). As the researcher's interest in facial recognition continues, a number of different algorithms are developed, three of which are well-studied in facial textbooks. Visual algorithms can be divided into two main methods

Geometry: Based on the geometric relationship between landmarks, or in other words the

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Efficient Monitoring of Agricultural Food Supply Chain Using Block Chain Technology

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ABSTRACT

Block chains are now firmly established as a digital technology that combines cryptographic, data management, networking, and incentive mechanisms to support the verification, execution, and recording of transactions between parties. While block chain technologies were originally intended to support new forms of digital currency for easier and secure payments, they now hold great promise as a new foundation for all forms of transactions. Agribusiness stands to become a key beneficiary of this technology as a platform to execute 'smart contracts' for transactions, particularly for high-value produce. First it is important to distinguish between private digital currencies and the distributed ledger and block chain technologies that underlie them. The distributed and cross-border nature of digital currencies like Bit coin means that regulation of the core protocols of these systems by central banks is unlikely to be effective. Monetary authorities are focused more on understanding 'on-ramps' and 'off-ramps' that constitute the links to the traditional payments system rather than being able to monitor and regulate the currency itself. In contrast to the digital currency feature of block chain, the distributed ledger feature has the potential for widespread use in agribusiness and trade financing, especially where workflows involve many different parties with no trusted central entity.

Keywords : Agriculture, supply chain, BCT, Cryptography, etc.

I. INTRODUCTION

An increasing demand in society for greater information about food reflects the need for more transparency and the lack of trust. At the same time, more and more food products and beverages are branded and accompanied by a variety of certification schemes, with an increasing risk of fraud (selling unqualified product with high-quality labels or claims) and adulteration. In the current situation, much of the compliance data and information is audited by trusted third parties and stored either on paper or in a centralized database and these approaches are known to suffer from many informational problems such as the high cost and inefficiency of paper-based processes and fraud, corruption and error both on paper and in IT systems. These information problems, indicating that current

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Litter Detection Using YOLO V3

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ABSTRACT

Cleanliness of city streets has an important impact on city environment and public health. Conventional street cleaning methods involve street sweepers going to many spots and manually confirming if the street needs to clean. However, this method takes a substantial amount of manual operations for detection and assessment of street's cleanliness which leads to a high cost for cities. Using pervasive mobile devices and AI technology, it is now possible to develop smart edge-based service system for monitoring and detecting the cleanliness of streets at scale. This paper explores an important aspect of cities - how to automatically analyse street imagery to understand the level of street litter. A vehicle equipped with smart edge station and cameras is used to collect and process street images in real time. A deep learning model is developed to detect, classify and analysis the diverse types of street litters such as tree branches, leaves, bottles and so on. In addition, two case studies are reported to show its strong potential and effectiveness in smart city systems.

Keywords : Smart city, street cleanliness.

I. INTRODUCTION

Urban street surface receives waste deposits from both natural and human sources, such as leaves, soil, sediment, scattered trash, illegal dumpling and so on. When the street cleaning service is ineffective, it could cause a negatively impact on city tourism, reputation, and economy. Furthermore, dirty street have also been recognized as potentially important contributor to air and water pollution. Researches have proved that if there is litter on the streets, people do not hesitate in throwing more litter.

However, if the streets are clean, people tend to think twice before throwing anything and end up not throwing the litter on streets. Therefore, cleanliness of city streets is particularly important as it has a significant effect on city's image and reputation, and on the quality of life for those who live and work in the city.

Currently, many cities have adopted various methods and made great effort to improve the cleanliness of their streets. For instance, New York city used an inspection program called Scorecard to measure the cleanliness of city streets and sidewalks [6]. [5] proposed a cleanliness index for the city of Granada (South of Spain) to measure the level of cleanliness of the streets. In 2015, Imteaj et al. constructed an android based application for the city Dhaka, capital of Bangladesh. The user himself can contribute to clean his city, notify volunteer to come forward or can

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Design and Implementing Brain Tumor Detection Using Machine Learning Approach

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ABSTRACT

In this paper, we propose a brain tumor segmentation and classification method for multi-modality magnetic resonance image scans. The data from multi-modal brain tumor segmentation challenge are utilized which are co-registered and skull stripped, and the histogram matching is performed with a reference volume of high contrast. We are detecting tumor by using preprocessing , segmentation, feature extraction ,optimization and lastly classification after that preprocessed images use to classify the tissue .We performing a leave-oneout cross-validation and achieved 88 Dice overlap for the complete tumor region, 75 for the core tumor region and 95 for enhancing tumor region, which is higher than the Dice overlap reported.

Keywords : Convolution Neural Network, Image Processing, MRI

I. INTRODUCTION

The detection and diagnosis of brain tumor from MRI is crucial to decrease the rate of casualties. Brain tumor is difficult to cure, because the brain has a very complex structure and the tissues are interconnected with each other in a complicated manner. Despite many existing approaches, robust and efficient segmentation of brain tumor is still an important and challenging task. Tumor segmentation and classification is a challenging task, because tumors vary in shape, appearance and location. It is hard to fully segment and classify brain tumor from mono-modality scans, because of its complicated structure. MRI provides the ability to capture multiple images known as multimodality images, which can provide the detailed structure of brain to efficiently classify the brain tumor. shows different MRI modalities of brain.

To design a detection and diagnosis of brain tumor from MRI is crucial to decrease the rate of casualties. Brain tumor is difficult to cure, because the brain has a very complex structure and the tissues are interconnected with each other in a complicated manner. Despite many existing approaches, robust and efficient segmentation of brain tumor is still an important and challenging task. Tumor segmentation and classification is a challenging task, because tumors vary in shape, appearance and location. It is hard to fully segment and classify brain tumor from mono-modality scans, because of its complicated structure. So we

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Data Security in Cloud

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ABSTRACT

Data security has been consistent in being a major issue in information technology. In the cloud computing world, becomes specifically critical as the data is situated in different places all over the world.
As per user's concerns about the cloud technology the important factors are privacy protection and data security. In both academics and industries, the topics in cloud computing have been checked by multiple techniques. For the future growth of cloud computing technology in industry, government and business the data security and privacy protection will become more crucial.
Data security and privacy protection challenges are similar to both hardware and software in the cloud architecture. This study is to analyze different security techniques and challenges from both software and hardware aspects to secure data in the cloud and focuses on improving the data security and privacy protection for the trustworthy cloud environment. In this document, we are preparing a relevant research analysis on the existing research work with reference to the data security and privacy protection techniques of cloud computing.

Keywords : Data security, Privacy Protection, Cloud Computing

I. INTRODUCTION

Cloud computing has been emerged as the next generation paradigm in computation. In the cloud computing world, both applications and resources are delivered on demand over the Internet as services. Cloud is an environment of the hardware and software resources in the data centers that provide diverse services over the network or the Internet to fulfill user's requirements. The explanation of "cloud computing" as per the National Institute of Standards and Technology (NIST) states that cloud computing allows unique, convenient. Network access to a shared pool of configurable computing resources like servers, networks, applications, storage, and services and can be provisioned on priority and released with less management effort or service provider interaction on demand.

As per the description, cloud computing provides a convenient on-demand network access to a shared pool of configurable computing resources. Resources

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Concealed Face Recognition

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ABSTRACT

So as to forestall the spread of CORONA otherwise known as COVID-19 infection, nearly everybody wears a veil during COVID-19 scourge. This makes the old facial acknowledgment framework ineffectual by and large, for example, network access control, face access control, facial participation, facial security checks at train stations, and so on Along these lines, it is exceptionally earnest to improve the acknowledgment execution of the current face acknowledgment innovation on the veiled appearances with internal heat level identification. Current progressed facial acknowledgment frameworks are planned dependent on profound realizing, which rely upon a more noteworthy number of face tests. Be that as it may, as of now, there are no covered face acknowledgment datasets. To this end, there are three kinds of concealed face datasets, including Masked Face Detection Dataset (MFDD), Real-world Masked Face Recognition Dataset (RMFRD) and Simulated Masked Face Recognition Dataset (SMFRD). These datasets are effectively accessible, in light of which different applications on veiled countenances can be created. So, we reason a dependable technique dependent on dispose of veiled locale and profound learning-based highlights so as to address the issue of concealed face acknowledgment measure with internal heat level identification.

I. INTRODUCTION

The COVID-19 infection can be spread through contact and surface contact, thusly, the biometric frameworks dependent on passwords or fingerprints can't be utilized further in the perspective on wellbeing. It is demonstrated that most germs are spread with our hands. In this way a contactless validation framework adequately lessens the danger of spread of disease. Face acknowledgment are more protected with no compelling reason to contact any gadget. A late investigation on COVID-19 has demonstrated that wearing a face veil by solid and contaminated populace diminishes significantly the transmission of this infection. Nonetheless, wearing the veil face causes the confirmation are become exceptionally troublesome errands when a fabulous piece of the face is covered up by a veil. existing face acknowledgment techniques are not productive when

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Crop Suggestion based on Regional Soil Quality using Machine Learning Techniques

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ABSTRACT

Agriculture in India plays a major role in economy and employment. The common difficulties present among the Indian farmers are they don't opt for the proper crop based on their soil necessities. Because of this productivity is affected. This problem of the farmers has been solved through precision agriculture. This method is characterized by a soil database collected from the farm, crop provided by agricultural experts, achievement of parameters such as soil through soil testing lab dataset. Agribusiness assumes a prevailing job in the development of the nation's economy. Atmosphere and natural changes have become a genuine danger inside the agri-field. Machine Learning ML is a significant methodology for accomplishing reasonable and compelling answers for this disadvantage. Harvest Yield Prediction technique includes foreseeing yield of the harvest from reachable historical and possible data like climate parameter, soil parameter and yield prediction. Real information of the state was utilized for building this model and furthermore the models were tried with tests acquired from the information. The expectation can make the farmer to foresee the yield of harvest before developing into the agribusiness zone. To anticipate the harvest yield in future precisely Random Forest, the most remarkable and popular administered machine learning rule is utilized.

With the impact of climate change in India, the majority of the agricultural crops are being badly affected in terms of their performance over a period of last two decades. Predicting the crop yield well ahead of its harvest would help the policy makers and farmers for taking appropriate measures for marketing and storage. Such predictions will also help the associated industries for planning the logistics of their business. Several methods of predicting and modeling crop yields have been developed in the past with varying rates of success, as these don't take into account characteristics of the weather, and are mostly empirical.

This software provides proper information to farmers and for that Data mining and machine learning is still an emerging technique in the field of agriculture and horticulture. In this paper we have proposed a method for classifying the soil according to the macro nutrients and micro nutrients and predicting the type of crop that can be cultivated in that particular soil type. Several types of machine learning algorithms are used such as K-Nearest Neighbor (K-NN), Support vector machine (SVM) and logistic regression.

Keywords: Machine learning, Agriculture, Soil, Classification, KNN Algorithm.

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Implementation and Detection of Phishing Websites Using Extreme Learning Machine Based on URL

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ABSTRACT

Phishing sites which expect to take the victims confidential data by diverting them to surf a fake website page that resembles a honest to goodness one is another type of criminal acts through the internet and its one of the especially concerns toward numerous areas including e-managing an account and retailing. Phishing site detection is truly an unpredictable and element issue including numerous components and criteria that are not stable. Proposed an intelligent model for detecting phishing web pages based on Machine Learning. Types of web pages are different in terms of their features. Hence, we must use a specific web page features set to prevent phishing attacks. We proposed a model based on Machine Learning techniques to detect phishing web pages. We have done analysis of three models of Machine Learning Algorithms and we have suggested some new rules to have efficient feature classification.

Keywords: Phishing websites, Machine Learning, SVM, NB, ELM

I. INTRODUCTION

Technology is growing rapidly day-by-day and with this rapid growing technology internet has become an essential part of human's daily activities. Use of internet has grown due to the rapid growth of technology and intensive use of digital systems and thus data security has gained great importance. The primary objective of maintaining security in information technologies is to ensure that necessary precautions are taken against threats and dangers likely to be faced by users during the use of these technologies. Phishing is the fraudulent attempt to obtain sensitive information such as usernames, passwords and credit card details by disguising as a trustworthy entity in an electronic communication. Typically carried out by email spoofing or instant messaging, it often directs users to enter personal information at a fake website, the look and feel of which is identical to the legitimate site. Information security threats have been seen and developed through time along development in the internet and information systems. The impact is the intrusion of information security through the compromise of

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House Price Prediction System

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ABSTRACT

The housing sector has hike as it is the one of the basic need. Housing the main domain of real estate. In the major metropolitan cities and the cities with many prestigious Educational institutions and IT Parks have reasonable price increase in housing. Home buying plans can derails the family's financial planning and other goals. Now a day's house price changing rapidly according to various parameters. The buyer gets confused in choosing his dream home as difference in price making it challenging. Both the buyer and seller should satisfy so they do not overestimate or underestimate price. So to build the platform where buyer can find home according to its needs and friendly to its financial condition. House price prediction on different parameters is our goal. Doing that we are going to use regression algorithms using machine learning on dataset so it can extract features from dataset. Result of this approach provide maximum efficiency and minimum errors.

Keywords: House price prediction, Regression algorithm, Machine learning, Feature extraction.

I. INTRODUCTION

The real estate's is not only the living requirement; it also represents the personal wealth and glory. In addition, the real estate's price fluctuation may impact the households 'investment and consumption situation. It is also an important impact factor for investing company, real estate's developer, banker and policy makers. Hence, it can be concerned as an important economic index. How to establish the real estate's price variation prediction model is an interesting research topic.

Studies on housing market forecasting investigate the house values, growth trend, and its relationships with various factors. The improvement of machine learning techniques and the proliferation of data or big data available have paved the way for real estate studies in recent years. There is a variety of research leveraging statistical learning methods to investigate the housing market

In India, the property is sold as per the wish of seller. Thus, it is a biased procedure to buy a house in India since there is no standard way to list the selling price of the property. Very less work on real estate valuation is done in India. People in India believe on what is shown on the mass media. But mass media can manipulate the content as per their convenience and profits. So we require a trusted medium which can predict the house prices with noteworthy precision and least mistake. Here we are proposing a model which predicts house prices based on various factors affecting on house price using machine learning.

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Troll Detection and Anti-Trolling Solution using Artificial Intelligence/Machine Learning

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ABSTRACT

With the increase in usage of social media platforms, due to which trolling and use of abusive language has burgeoned proportionately. The sole reason for this is that there is no surveilling authority on these platforms. Anyone from kids, teenagers to adults can fall prey to trolling. This paper focuses on using Artificial Intelligence and Machine learning algorithms to invigilate such bullies and further classify them for enhanced analysis. We will be introducing lexical, aggression, syntactic and sentiment analyzers to examine the data and determine if it was meant to be a troll or not. The output of these analyzers will be then fed to algorithms such as Naive Bayes and classifiers like Decision Tree, Random forest, Multinomial, Logistic regression to segregate the trolls in different categories like offensive, targeted, individual, group etc and use visual representation tools to improve the analysis.

Keywords: Social Media, Offensive, Trolling, Bullying, Abusive, Artificial Intelligence, Machine Learning, Detection, Anti Trolling, Tweets, Analysis

I. INTRODUCTION

For many people round the world social media sites are an integrated part of their lifestyle. There are many different social media sites supporting a good range of practices and interests. Social networks like Facebook, Twitter, Instagram and Linkedin have become a source for news and a platform for political and moral debate for tons of users this is where trolling comes in, particularly, a troll often uses an aggressive offensive language and has the aim to hamper the normal evolution of a web discussion and possibly to interrupt it. Only recently has it been possible to pay proper attention to the present problem, in order that many renowned press bodies and magazines have begun to address the difficulty and to write down articles both on the overall description of the phenomenon and on particular events that have caused a stir, favored by the increasing occurrence of behavior just like the one

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Training an Agent using Deep Reinforcement Learning: Snake Game

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ABSTRACT

Deep Reinforcement Learning has become a commonly adopted method to enable agents to hunt out complex control policies in various video games. Deep-Mind used this technique to play Atari games. However, similar approaches should get to be improved when applied to tougher scenarios, where reward signals are sparse and delayed. This paper illustrates a refined Deep Reinforcement Learning model to enable an autonomous agent to play the classical Snake Game, whose constraints get stricter as the game progresses further. Specifically, to train this model we have used Deep Neural Network (DNN) with a variant of Q-learning where agent will learn from its past experiences. Moreover, we have proposed a designed reward mechanism to properly train the network, adopt a training gap strategy to temporarily bypass training after the situation of the target changes, and also introduces dual experience replay method through which different experiences for better training can be categorized. The final results show that our agent in an environment outperforms the baseline model and surpasses the human-level performance in terms of playing the Snake Game.

Keywords: Deep reinforcement learning, Q-Learning, Deep Neural Network, Deep Learning, Experience replay.

I. INTRODUCTION

Neural Networks when combined along with the reinforcement algorithms can beat human experts playing various Atari video games. Deep-mind's AlphaGo, an algorithm that had beaten the world champions of the Go board game. At DeepMind they pioneered the mixture of these approaches i.e. deep reinforcement learning - to form the first artificial agents to understand human-level performance across many challenging domains.

Reinforcement learning is an area of Machine Learning. It is about taking suitable action to maximize reward during a particular situation. It is employed by various software and machines to seek out the simplest possible behaviour or path it should absorb a selected situation. Reinforcement learning differs from the supervised learning during a way that in supervised learning the training data has the solution key with it therefore the model is trained with the correct answer itself whereas in reinforcement learning, there's no answer but the

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Crime Awareness and Registration System

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ABSTRACT

The Crime rate has always been very high in India. Country has been on top in list for most of the years. The most relevant reason of such crime rate is slow judicial process and absence of knowledge in field. Many of the crimes can be prevented or reported early with an efficient user friendly system. The perspective of citizens about the judicial system and police has not been so good or falsely understood. Many of the cases do not get registered for above reasons. The reachability is poor as well as do not work for everyone. Records can be easily destroyed or fabricate.

Law and rules are not known by everyone in this country and in many of the cases victim does not know that they have been accused or any criminal activity is happening around them this absence of knowledge leads to increase in crime but decrease in registering complaints. Hence crime happens which damages the society and we may not be able to overcome the situation because of absence in records and knowledge

We can overcome this gap using an efficient user friendly system which allows us to know about crimes around us and help us to file complaint of crime easily. A platform for both user and authority to connect with each other.

Keywords : Machine learning, Neural networks, IPC, Chatbot.

I. INTRODUCTION

This system has static and dynamic behaviour as most of the system the registration and filing complaint part is static where we do not need any other mathematical computation to provide these services. Where steps are predefined and data goes through the fixed number of stages and either accept or reject the request. But system also contains a Chatbot which is as important as the other static systems. Core function of system is to handle crime related queries and respond with user understandable manner. Chatbot replies with the text or with the other informational representational formats. Information which will be provided by the chatbot goes through various steps. The origin of the information is raw data which contains information about criminal law. This data is converted and stored for business Specific purpose. Data goes through the process to make it more useful for the system.

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Emotion Recognition Based Personal Entertainment Robot Using ML & IP

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ABSTRACT

This project presents a method to automatically detect emotional duality and mixed emotional experience using Linux based system. Co-ordinates, distance, and movement of tracked points were used to create features from visual input that captured facial expressions, head, face gestures, and face movement. Spectral features, prosodic features were extracted using the camera. Espeak and Pyttsx and Face API were used for calculations of features. A combined feature vector was created by feature level fusion and a cascade classifier was used for emotion detection. Live participants and actions are to be used for recording simultaneous mixed emotional experiences. As per the calculated result system will play songs and display the books list.

Keywords : Smart Emotion, Espeak and Pyttsx, and Face API

I. INTRODUCTION

Emotion recognition has important applications in the field of medicine, education, marketing, security, and surveillance. Machines can enhance human-computer interaction by accurately recognizing human emotions and responding to those emotions. Existing research has mainly examined the automatic detection of a single emotion. But psychology and behavioral science studies have shown that humans can concurrently experience and express mixed emotions. For instance, a person can feel happy and sad at the same time. In this research combinations of six basic emotions (happiness, sadness, surprise, anger, fear, disgust, and neutral state) were used. This study aims to develop features that capture data from facial expressions to identify multiple emotions. In the case of a single-label classification problem each annotated feature-vector instance is only associated with a single class label. However, multiple concurrent emotion recognition is a multi-label classification problem. In a multi-label problem, each feature vector instance is associated with multiple labels such as the presence or absence of one of each six basic emotions. The multi-label classification is receiving increased attention and is being applied to many domains such as text, music, images, and video-based systems, security, and bioinformatics. This paper examined the recognition of concurrent emotional ambivalence and mixed emotions. Additionally, the study examined two concurrent emotions (emotion duality) to limit the scope of the research based on the availability of scenarios. This was done so that the experimental design was realistic. The subjects could express dual emotions with ease and observers could annotate the data without ambiguity. This study implemented a multimodal emotion recognition system with multiple

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Automatic Whitelist Generation for SQL Queries Using Desktop Application Tests

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ABSTRACT

In this survey paper the planned system has been developed to change secure access of information to a voice-based programme (UI) by sanctionative voice-based authentication Associate in Nursingd integration with an existing linguistic communication process (NLP) system. during this survey work on the voice-based SQL question generation. we have a tendency to study the question of a way to improve the attractive the results from question results in addition as applying the question to the info. ancient predefined question forms don't seem to be ready to satisfy varied ad-hoc queries from users on those databases. Here, we have a tendency to propose Machine learning based mostly technique to come up with the SQL question supported user voice, a unique info question kind interface that is in a position to dynamically generate question forms.

Keywords : NLP, Languages and compilers, Optimization, Verification, Voice Recognition, Machine-independent microcode generation.

I. INTRODUCTION

In different words, human language technology may be a technique, which might create the pc perceive the languages naturally utilized by humans. during this project, we have a tendency to square measure translating English question into a SQL question victimisation linguistics synchronic linguistics. The system has been settle for users question in language as associate input. The program has been check whether or not the question is valid or not.

Then we have a tendency to has been generate tokens by acting the division of the question clause. every token represents one word within the users question. The tokens from the question clause square measure compared with clauses already keep within the wordbook. The wordbook has to be perpetually updated. Then the algorithmic program scans the tokens and tries to seek out attributes gift within the question. Then we discover all the tables within the information that contain the attributes by examination syntax and linguistics. Then we have a tendency to build the ultimate SQL question and

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Text to Image Synthesis

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ABSTRACT

One of the most difficult things for current Artificial Intelligence and Machine Learning systems to replicate is human creativity and imagination. Humans have the ability to create mental images of objects by just visualizing and having a general look at the description of that particular object. In recent years with the evolution of GANs (Generative Adversarial Network) and its gaining popularity for being able to somewhat replicate human creativity and imagination, research on generating high quality images from text description is boosted tremendously.

Through this research paper, we are trying to explore a newly developed GAN architecture known as Attentional Generative Adversarial Network (AttnGAN) that generates plausible images of birds from detailed text descriptions with visual realism and semantic accuracy.

Keywords : GAN, AI, ML, Deep Learning, AttnGAN

I. INTRODUCTION

GAN (Generative Adversarial network):

GANs consists of two components- Generator and Discriminator which are constantly in touch with each other working in tandem. The generator generates images and the discriminator then assesses those images and provides feedback to generator about the correctness of the generated image in comparison with real images of the same object. The two neural networks constantly compete with each other to become more accurate in their predictions. The generator creates new images based on the feedback provided by the discriminator and the discriminator is trained by providing real images. The generator improves to fool the discriminator and the discriminator trains itself not to get fooled by the generator. The basic structure of GAN is shown in Fig-1.

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A Smart Digital Health Care Record with Prediction of Health Condition

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ABSTRACT

Humans are known to be the most intelligent species on the earth and are inherently more health conscious. Since Centuries mankind has discovered various healthcare systems. To automate the process and predict diseases accurately machine learning methods are attending popularity in research community. We are implementing machine learning methodologies to identify the best-predicted values related to the patients in their respected health condition and also need to analyze the previous health records. The accuracy in prediction is achieved bymaintaining a repository or the warehouse wherein the digital data related to the patients and their treatment is maintained.

Keywords : Healthcare, Health Card, QR Code, Prediction, Methodology, Algorithms.

I. INTRODUCTION

keep In this paper,we are proposing the health care system that stores the overall health information of the patient in a Digital card. This card will consist of all the medication details, reports etc. of the patient.The implementation of the project has done using Machine learning in python.

Machine Learning

Machine learning is the main background of this prediction process and the data we acquired from the medical application. The information we gathered can be used for the machine learning models for better prediction of what is going to happen for the patient in future and what are the main constrains the patients have to follow if there are any problems withtheir health condition.[9][10]

II. LITERATURE SURVEY

The table given below shows various existing system or models used so for in the context of fruit classifications.

Table i: Literature Survey Table

Sr. No.	Paper Name	Advantages	Limitations
1.	A Smart Card Based Healthcare System	-Access accurate health data quickly. -Encryption	-Internet supported system ,Network issue.

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A Random Forest Regression Approach to Predict Flight Fare

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ABSTRACT

This paper deals with the problem of flight prices prediction. The aviation industry keeps changing the flight prices. Prices on last minute airfare can be highly volatile so customer try to book ticket in advance. To estimate the minimum flight price, data for a specific air route has been collected including the features like departure date, arrival date, source, destination and airways. Features are extracted from the gathered data to apply Machine Learning (ML) Models. Machine Learning regression methods are used to predict the price at the given time. The training set is used to train the algorithm for accurate prediction and this will help to decide a specific airline as per budget.

Keywords : Machine Learning Algorithm, Prediction Model, Flight Price, Regression.

I. INTRODUCTION

The aviation industry is using complex strategies and methodologies to assign flight prices these days, in a dynamic fashion. These strategies are taking into account several commercial, financial and marketing factors closely connected with the final flight prices.

The high complexity of the pricing models applied by the airlines is the major difficulty faced by customers while purchasing the ticket, it is very difficult for customer to purchase an air ticket in the lowest price, since the price changes rapidly.

Machine Learning is one of the most powerful research topics in computer science and engineering, which is applicable in many directions. It provides a collection of algorithms, methods and tools able to incorporate some kind of intelligence to machines.

The potential of machine learning is the provided modelling tools, which are able to be trained, via a learning policy, with a set of data describing a certain problem and to counter to similar unrevealed data with a common way.

For anticipating the flight ticket prices, numerous algorithms are introduced in machine learning. The algorithms are: Support Vector Machine (SVM), Linear regression, K-Nearest neighbours, Decision tree, Multilayer Perceptron, Gradient Boosting and Random Forest Algorithm. Using python library scikit learn these models have been accomplished. The

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Generation of 3D Model from Images

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ABSTRACT

3D models are used in various fields such as video games, films, architecture, illustration, engineering and commercial advertising. We have seen significant progress in 3D model generation and reconstruction in recent years. In this paper, we discussed how to convert a 2D image into a 3D model. Creating a 3D Model takes lots of effort starting from scratch in software like Maya or Blender. We are proposing a tool that allows you to generate a 3D Model from a single 2D image. The tool uses a pre-trained machine learning model in the background to generate a 3D Model. The pre-trained model is based on Hierarchical Surface Prediction (HSP). HSP uses Convolutional Neural Network (CNN) which is good at processing visual data like images, 3D Models with low computational power.

Keywords : HSP, CNN, 3D Model, DIB-R

I. INTRODUCTION

The 3D modelling is a computer graphics technique that makes it possible to produce a 3D digital representation of any object or surface. The 3D model is a collection of points/vertex, edges, and faces. The 3D models are used in various media, including video games, movies, architecture, illustration, engineering and commercial advertising. This is what engineers and architects use to plan and design their work. Animators and game developers use 3D modelling to turn their ideas into reality. Due to their value, a vast market for 3D models is available online.

The 3D modelling is an accurate workflow that often involves the careful placement of individual vertices to obtain the correct contours of the desired object. There are several tools available to accelerate the modelling process. Most programs include a mirror technique that allows the artist to build an asymmetric model by working on only half or even a quarter of the object.

So to solve the problem of manual work like changing vertex position, or adding a new vertex, and many more things the 3D modelling is required as a technique to do it using algorithm. we have developed an application that allows generating 3D models automatically. The system takes an input image that holds an object for which the user wishes to generate the 3D model. Next, it processes the image and makes it appropriate for a subsequent process. After