



"Empowerment through quality technical education"
Dr D Y Patil Educational Enterprises Charitable Trust's
AJEENKYA
DY PATIL SCHOOL OF ENGINEERING
(Formerly known as DY Patil School of Engineering)

AICTE ID - 1-3847411
AISHE Code: C-46648
DTE Code: EN6732
SPPU PUN Code: CEGP015720

(Approved by AICTE, Recognized by Govt. of Maharashtra, Affiliated to Savitribai Phule Pune University)
(Accredited by NAAC, NABL & ISO 9001:2015 & 21001:2018 Certified Institute)


Criteria 3

3.3 : Research Publication and Awards

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

Sr. No.	Parameter	Academic Year
1	Conference Proceeding and Books Published	Calendar Year 2023
		Calendar Year 2022
		Calendar Year 2021
		Calendar Year 2020
		Calendar Year 2019
		Calendar Year 2018




Principal
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Calendar Year 2023

Conference Proceeding		
Sr. No.	Conference Name	ISBN Number of Proceeding
1	International Conference on Innovation In Engineering and Technology, ICIET-2023	Print ISSN : 2395-1990 Online ISSN : 2394-4099
2	National Conference on Multidisciplinary Engineering Science & Technology (MEST-23)	978-81-93062-40-1
3	"National Conference on Multidisciplinary Research in Science & Technology (MRST-23)"	978-81-964523-0-8
4	An International Conference - Innovation 2K23	Print ISSN : 2395-1990 Online ISSN : 2394-4166
Books Published		
Sr. No.	Name of the teacher/Author	ISBN Number
5	Dr. F. B. Sayyad	978-93-5563-312-5
6	Dr. Shreepad Sarange	978-93-5757-131-9
7	Dr. S. M. Khairnar	978-93-89828-91-7




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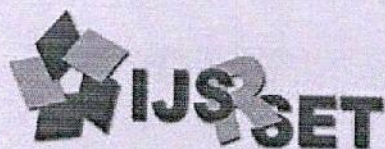
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ICIET-2023

22nd May, 2023

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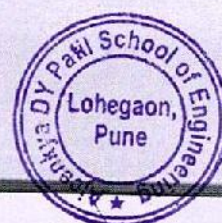
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On

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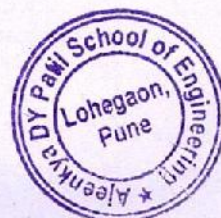
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Ajeenkya D Y Patil School of Engineering (ADYPSOE) is one of the most prestigious academic groups in the Pune City and state of Maharashtra which is Approved by AICTE and Affiliated to S.P. Pune University.


ADYPSOE was established in 2010 by the Chairman of Ajeenkya D. Y. Patil Group with excellent infrastructure spread over green campus with spacious buildings.

The college has developed excellent infra-structural facilities with well-equipped laboratories and an enriched library, which are updated regularly. The facilities and in-depth teaching is improvising students to understand the recent trends of Engineering and Technology. The College provides not only technical education to students but also conducts many co-curricular and extra-curricular programs, which ensure multifaceted development of students.

Aim & Objective of the Conference- MEST-23

The conference is aimed to bring together innovative academics and industrial experts in the field of Engineering and Technology to a common forum. The conference aspires to exhibit the technical excellence of budding technocrats, research scholars, representatives from the academia industry.

The conference is also a space for creating collaborative links between academics and professional practitioners and their workplaces, aiming at long-term sharing of knowledge and discussions of highly current issues.


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MESSAGE FROM PRESIDENT




It gives me immense pleasure that the Ajeenkya DY Patil School of Engineering has organized National Conference on Multidisciplinary Engineering Science & Technology (MEST-23), in association with International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET). Ever since the inception of our institute, we have been striving for excellence in various departments of Engineering and at the very same time marching forward with the mission of professional as well as technical development.

I believe in promoting events to be organized in Ajeenkya DY Patil School of Engineering which opens research and innovation avenues for students. This National Conference on Multidisciplinary Engineering Science & Technology (MEST-23) is one such step towards motivating students and researchers. The conference greatly encourages graduate and Post-graduate students, research scholars and faculty to present innovative ideas and latest discoveries in the field of engineering and Technology. I would like to extend my gratitude towards Research and development cell and all staff who had done excellent job for the success of this conference. I take this opportunity to extend my best wishes to all the participants of this conference for their future endeavors and also aspire that more and more people opt for research and bring laurels to themselves and to the field of education.

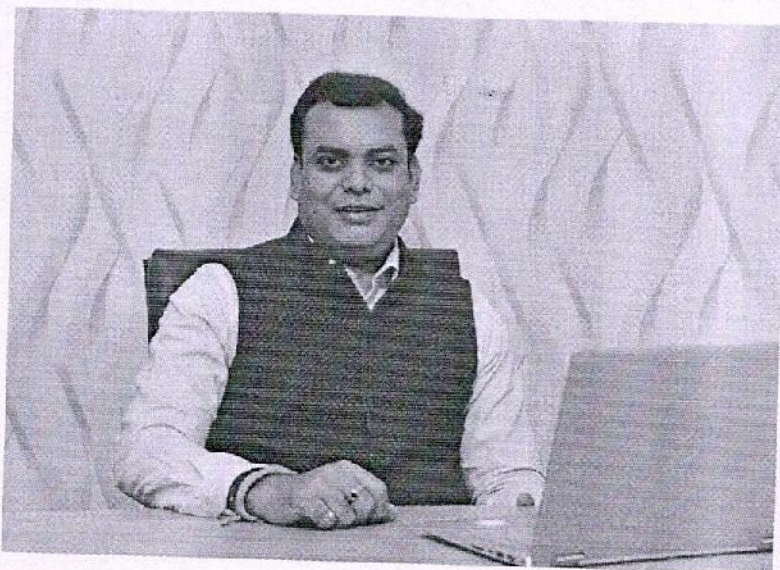
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President, ADYPSOE


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MESSAGE FROM TRUSTEE & ADVISOR

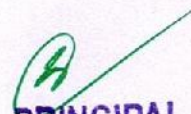


At the outset, I extend my appreciation and congratulations to Ajeenkya DY Patil School of Engineering for successfully organizing National Conference on Multidisciplinary Engineering Science & Technology (MEST-23) on 15th June 2023. Education in general and technical education in particular, must be relevant to rapidly changing needs of the society, industry and business houses. The educational environment must be dynamic and quickly adaptable, so that professionals are capable of shouldering all-encompassing global responsibilities.

I express my sincere thanks to all well-wishers for their valuable guidance and unstinted support, who have been directly or indirectly involved in organizing this conference. May you all always be in pursuit of Excellence.

Dr. Sushant V. Patil,

Trustee & Advisor, ADYPSOE


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MESSAGE FROM DIRECTOR

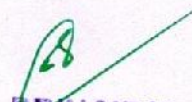


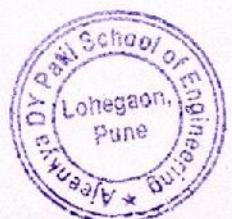
It gives me great pleasure to be part of the National Conference on Multidisciplinary Engineering Science & Technology (MEST-23) in Ajeenkya D Y Patil School of Engineering campus. The conference proceedings are a collection of research-based articles and papers presented by graduate and post graduate students and research scholars from all over India. These articles not only handle various issues in the field of Technology but also touch an array of topics right from Civil, Mechanical, Electronics branches. Conducting a conference of this magnitude is always encouraging and I would appreciate the efforts of the Ajeenkya D Y Patil School of Engineering in this endeavor.

I hope that the conference will provide a platform for various personnel to introduce innovative ideas and thoughts and exhibit their research skills in the area of all Technologies for sustainable development.

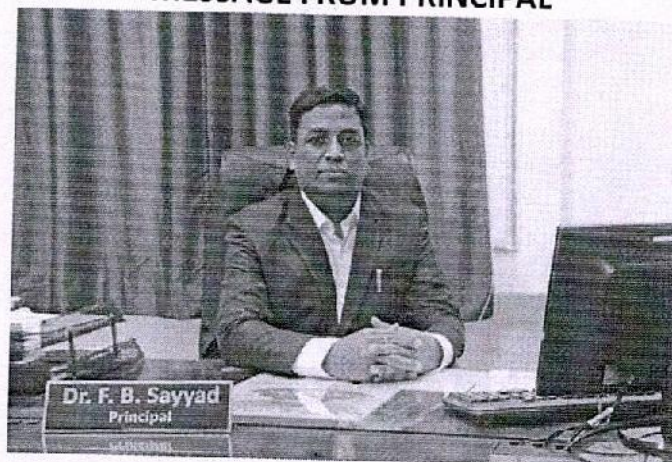
Dr. Kamaljeet Kaur Director,

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MESSAGE FROM PRINCIPAL




Education is an instrument to enhance the capabilities of human beings to become knowledgeable, creative and good citizens which resulted in my urge to develop excellent educational facility. I am extremely happy as principal of Ajeenkya D Y Patil School of Engineering, hosting National Conference on Multidisciplinary Engineering Science & Technology (MEST-23).

It is a justified gesture to provide a platform for graduate students and researchers to present their work and seek experts' evaluation that provides insight in the work undertaken. I hope that the presentations, discussions, appreciations and suggestions will help in improving their research work. I extend my heartfelt wishes to all the participants who have contributed to making this conference a great success. It gives me pleasure to write for the proceeding of National Conference on Multidisciplinary Engineering Science & Technology (MEST-23) an important event. Conferences of this magnitude help the graduate students and researchers to interact amongst themselves as well as experts in various areas. I feel that, with presentations and interactions with experts; students are exposed to the emerging trends in respective domains and the research work being carried out.

I would like to congratulate participants for contributing to this conference. I appreciate conference conveners, faculty coordinators, staff members of Ajeenkya D Y Patil School of Engineering for organizing the National Conference on Multidisciplinary Engineering Science & Technology (MEST-23).

Dr. Farook Sayyad

Principal, ADYPSOE


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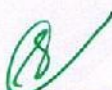


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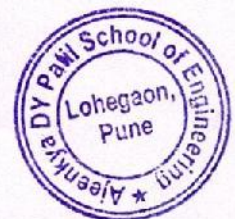
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About the College

Ajeenkya D Y Patil School of Engineering (ADYPSOE) is one of the most prestigious academic groups in the Pune City and state of Maharashtra which is Approved by AICTE and Affiliated to S.P. Pune University.


ADYPSOE was established in 2010 by the Chairman of Ajeenkya D. Y. Patil Group with excellent infrastructure spread over green campus with spacious buildings.

The college has developed excellent infra-structural facilities with well-equipped laboratories and an enriched library, which are updated regularly. The facilities and in-depth teaching is improvising students to understand the recent trends of Engineering and Technology. The College provides not only technical education to students but also conducts many co-curricular and extra-curricular programs, which ensure multifaceted development of students.

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MESSAGE FROM PRESIDENT




It gives me immense pleasure that the Ajeenkya DY Patil School of Engineering has organized the First National Conference on Multidisciplinary Research in Science and Technology (MRST-2023), in association with International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET). Ever since the inception of our institute, we have been striving for excellence in various departments of Engineering and at the very same time marching forward with the mission of professional as well as technical development.

I believe in promoting events to be organized in Ajeenkya DY Patil School of Engineering which opens research and innovation avenues for students. This First National Conference on Multidisciplinary Research in Science and Technology (MRST-2023) is one such step towards motivating students and researchers. The conference greatly encourages graduate and Post-graduate students, research scholars and faculty to present innovative ideas and latest discoveries in the field of engineering and Technology. I would like to extend my gratitude towards Research and development cell and all staff who had done excellent job for the success of this conference. I take this opportunity to extend my best wishes to all the participants of this conference for their future endeavors and also aspire that more and more people opt for research and bring laurels to themselves and to the field of education.

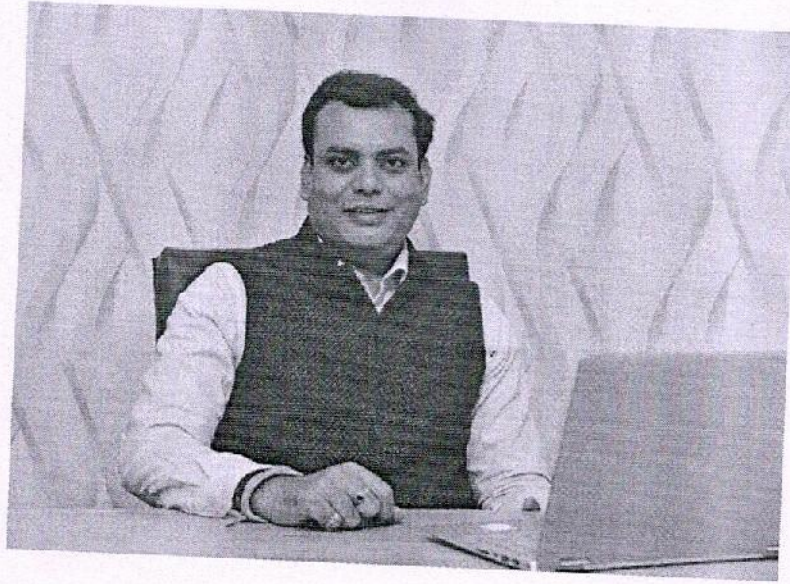
Dr. Ajeenkya D.Y. Patil

President, ADYPSOE


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MESSAGE FROM TRUSTEE & ADVISOR

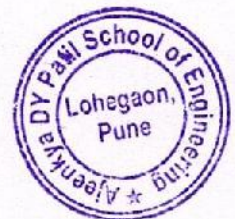


At the outset, I extend my appreciation and congratulations to Ajeenkya DY Patil School of Engineering for successfully organizing the First National Conference on Multidisciplinary Research in Science and Technology (MRST-2023) on 29th -30th June 2023. Education in general and technical education in particular, must be relevant to rapidly changing needs of the society, industry and business houses. The educational environment must be dynamic and quickly adaptable, so that professionals are capable of shouldering all-encompassing global responsibilities.

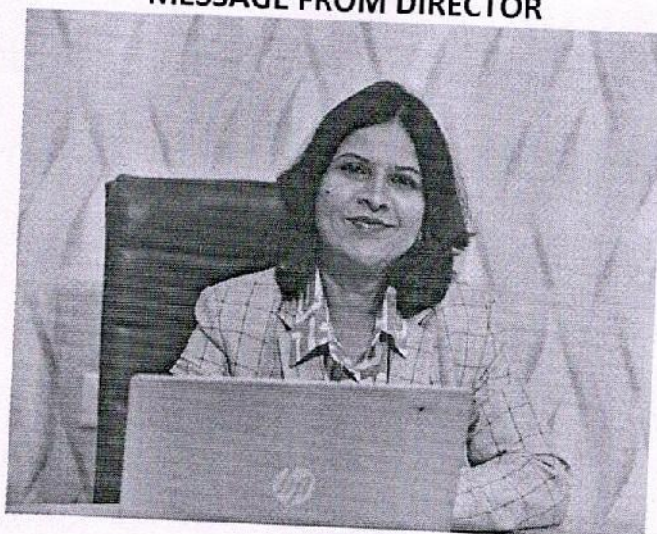
I express my sincere thanks to all well-wishers for their valuable guidance and unstinted support, who have been directly or indirectly involved in organizing this conference. May you all always be in pursuit of Excellence.

Dr. Sushant V. Patil,
Trustee & Advisor, ADYPSOE


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MESSAGE FROM DIRECTOR




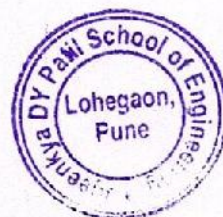
It gives me great pleasure to be part of the First National Conference on Multidisciplinary Research in Science and Technology (MRST-2023) in Ajeenkya D Y Patil School of Engineering campus. The conference proceedings are a collection of research-based articles and papers presented by graduate and post graduate students and research scholars from all over India. These articles handle various issues in the field of Engineering and Technology. Conducting a conference of this magnitude is always encouraging and I would appreciate the efforts of the Ajeenkya D Y Patil School of Engineering in this endeavor.

I hope that the conference will provide a platform for various personnel to introduce innovative ideas and thoughts and exhibit their research skills in the area of all Technologies for sustainable development.

Dr. Kamaljeet Kaur Director,

ADYPSOE


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MESSAGE FROM PRINCIPAL




Education is an instrument to enhance the capabilities of human beings to become knowledgeable, creative and good citizens which resulted in my urge to develop excellent educational facility. I am extremely happy as principal of Ajeenkya D Y Patil School of Engineering, hosting First National Conference on Multidisciplinary Research in Science and Technology (MRST-2023).

It is a justified gesture to provide a platform for graduate students and researchers to present their work and seek experts' evaluation that provides insight in the work undertaken. I hope that the presentations, discussions, appreciations and suggestions will help in improving their research work. I extend my heartfelt wishes to all the participants who have contributed to making this conference a great success. It gives me pleasure to write for the proceeding of First National Conference on Multidisciplinary Research in Science and Technology (MRST-2023) an important event. Conferences of this magnitude help the graduate students and researchers to interact amongst themselves as well as experts in various areas. I feel that, with presentations and interactions with experts; students are exposed to the emerging trends in respective domains and the research work being carried out.

I would like to congratulate participants for contributing to this conference. I appreciate conference conveners, faculty coordinators, staff members of Ajeenkya D Y Patil School of Engineering for organizing the First National Conference on Multidisciplinary Research in Science & Technology-2023 (MRST-2023).

Dr. Farook Sayyad

Principal, ADYPSOE


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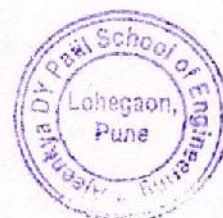
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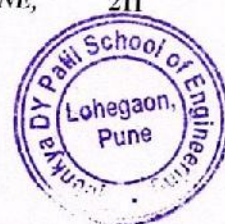

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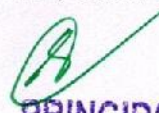
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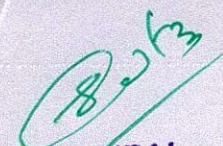
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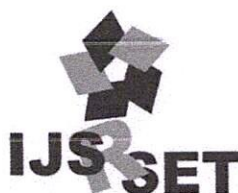
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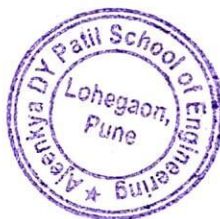
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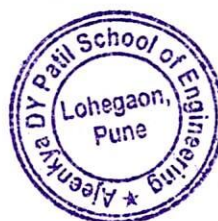
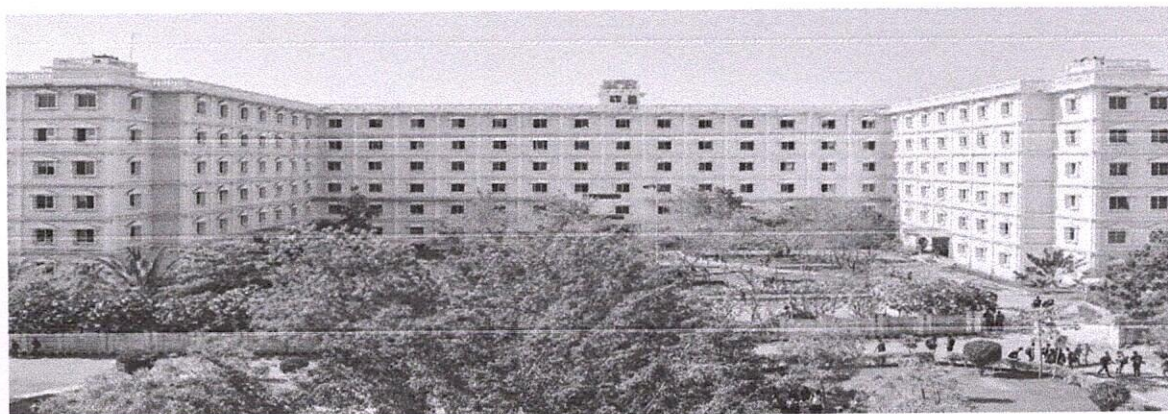
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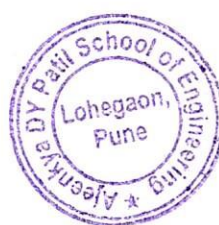

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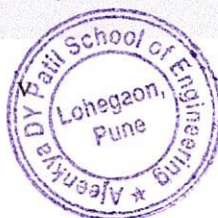
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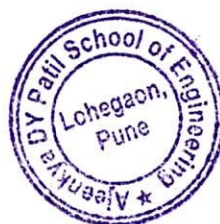
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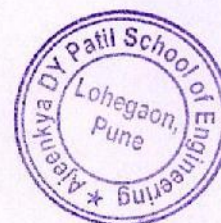
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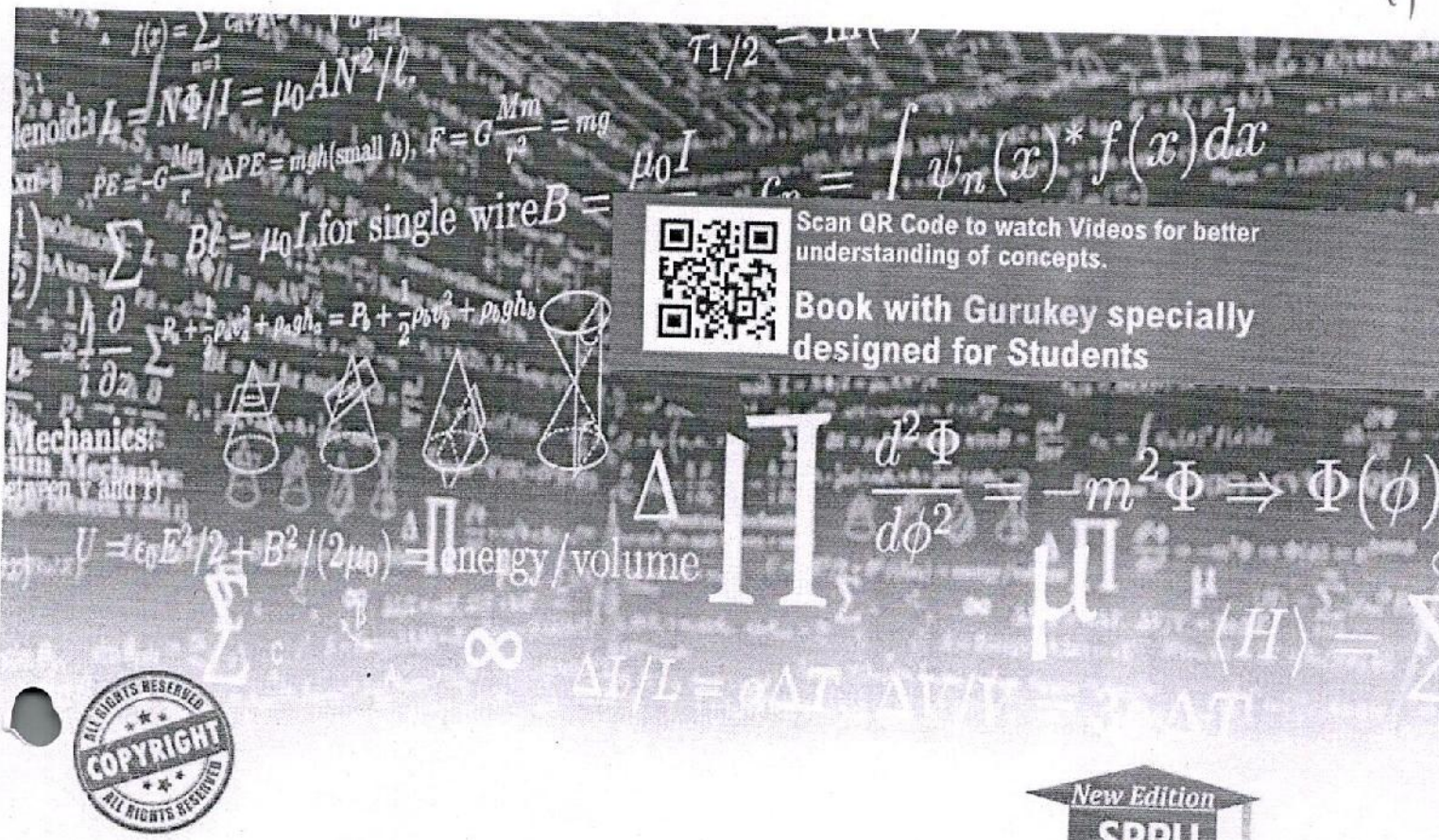


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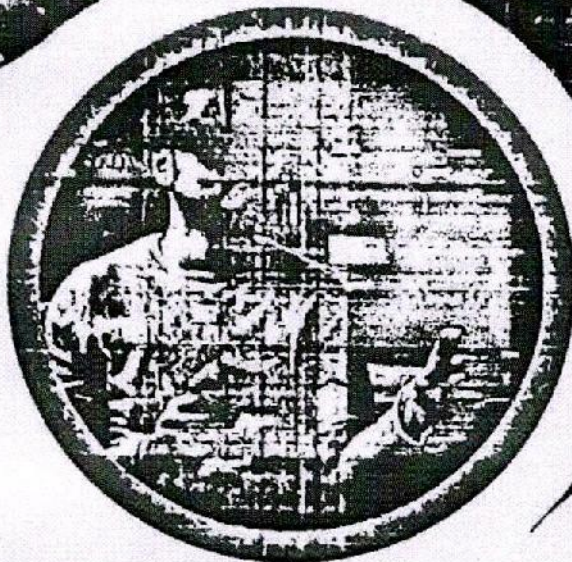
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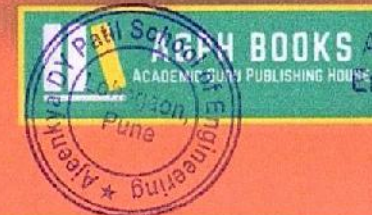


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Research on Robust Aircraft's Trajectory Tracking using Adaptive Controller

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Abstract— Military, naval, army, etc., rely heavily on aircraft as their primary mode of transportation. In comparison to other types of transportation, aircraft have more freedom of motion. Tracking an aircraft's trajectory in the sky, is an extremely non-linear process. Movement control is crucial to the success of trajectory tracking. The prevention of crashes, damage, and other mishaps relies heavily on the accurate direction and movement controls in the aviation sector. Both stability and control are crucial in aircraft. Yaw, roll, and pitch are the three angles that can be employed to stabilize and control the movement. In this study, an Adaptive Fuzzy PID Controller is developed to regulate all three parameters. The study begins with a model of the aircraft, then moves on to the design of a conventional PID controller and an Adaptive Fuzzy PID controller, and finally concludes with an evaluation of the two controllers through an examination of their output responses at varying degrees of set angle and error metrics like the Integral Squared Error (ISE) and the Integral Absolute Error (IAE). This comparison highlights the advantage of the Adaptive Fuzzy PID controller in trajectory tracking with minimal rising, settling, and overshoot. Among the three angle-tracking systems, Adaptive Fuzzy PID gives the lowest error values.

Keywords— Aircraft, Yaw, Model, Controller, Error Metrics, Trajectory.

1. INTRODUCTION

Aircraft control systems are a classic example of a nonlinear control problem. This is because the dynamics of an aircraft varies directly as aircraft circumstance and structure change. So, a developed dynamic model is stable and damped in one set of conditions, and unstable or no damping in another set of conditions. Lightly damped oscillatory modes in transport aircraft can make passengers uncomfortable and make piloting more difficult. A combat aircraft in this position is very vulnerable because of the need for extreme mobility and the possibility of catastrophic strikes [1]. There are several instances in which the plane's flight path should be predetermined. Positional error from the aircraft trajectory tracking, while achieving the desired speed [2], must be strictly regulated by the landing instrument system of a conventional aircraft's fixed-wing. Unmanned aerial vehicles

(UAVs) have been utilized and designed for a variety of purposes because of technological breakthroughs in precise trajectory tracking. Typically, taking off and landing in such UAVs requires a predefined trajectory [3] or a constrained region [4]. Accurate aircraft position control is required for this purpose. For making the aircraft accurately track the trajectory, it is important to control the yaw, pitch, and roll angle of the aircraft at the required set point. The three variables are important for aircraft motions like front and back, up and down, and left and right. Figure 1 illustrates the aircraft dynamics. This helps for a better understanding of yaw, pitch, and roll purpose.

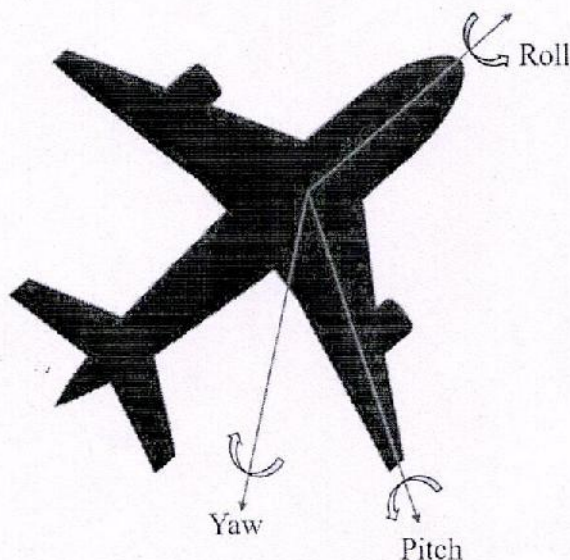



Fig. 1. Aircraft Dynamics

Most aircraft trajectory tracking systems are still designed utilizing a linear approximation and traditional control techniques like PID or PD [5,6]. Several attempts to achieve this condition have been undertaken in the past, and some of them are recounted in this work.




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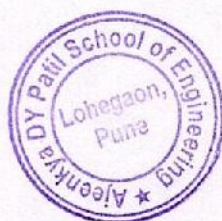
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UNIT - I**Chapter 1 : Introduction to Quality and Quality Tools****1-1 to 1-37**

Precision and accuracy, Quality dimensions, Statements, Cost of quality & value of quality, Deming's cycles & 14 Points, Juran Trilogy approach, Seven Quality Tools, Introduction to N Seven Tools, Quality Circle, 5S, Kaizen, Poka yoke, Kanban, JIT, QMS (ISO 9000, TS16949, ISO14000). Criteria for Quality Award (National & International).

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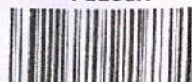


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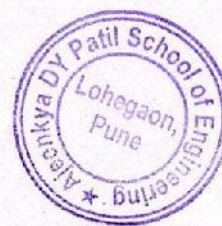
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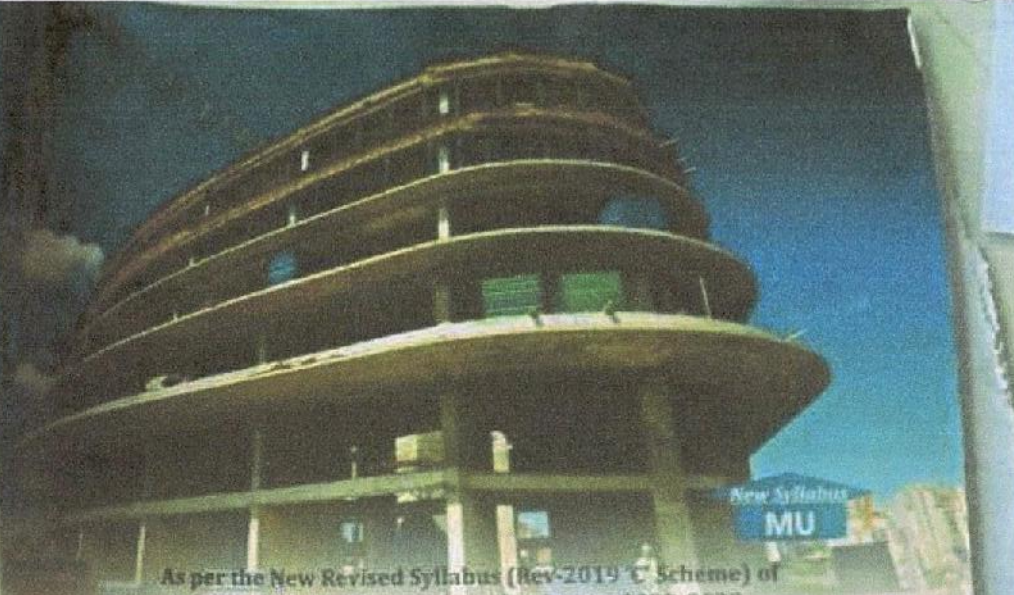
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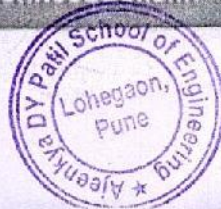
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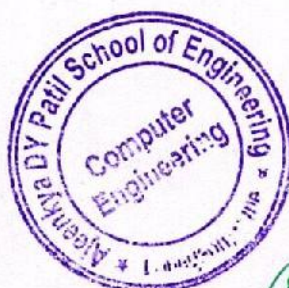
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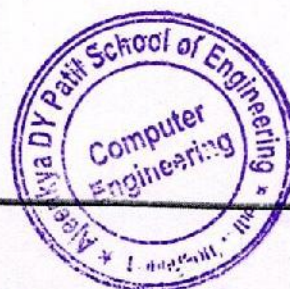
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Deep Learning-based Automatic 3D Printer Anomaly Detection during the Printing Process

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Abstract—3D printing is a technology which is expected to be one of the most used technologies in the upcoming time. This technology allows to print out products that are designed using 3D modeling software. Though this is an effective technology, it also has its disadvantages. The disadvantages include anomalies. Anomaly is a defect that is often found when the printer finishes the printing process. Thus, it cannot be rectified when found during the process. To resolve this issue, this study aims in developing a deep learning model using the UNet algorithm. A dataset of pictures of various possible anomalies is gathered from Kaggle. The Kaggle data is then preprocessed using three different methods. The images are initially applied using the target format. The images are then multiplied and shrunk to keep the balance. The UNet method is employed to create a deep learning model. The preprocessed dataset is then used to train the model. To guarantee improved performance, the trained model is subsequently put to the test to assess the model's final accuracy and loss. In all three instances, the model's output is determined to be satisfactory. The model produced an accuracy of 98% during the testing and produced a loss value of 0.54%. This loss value is so small that it can be neglected. The model developed is found to be one of the best algorithms that can be used in anomaly detection.

Keywords— Anomaly detection, image processing, data collection, deep learning, UNet algorithm.

I. INTRODUCTION

Various types of printings are available in the modern world. Though 2-dimensional printing plays a major role in our daily lives, 3D printing is also widely used in the current times. 3D printing is the process of manually designing a product in 3D software and printing it in layers. Normally software like CAD is used to design a 3D model. However, 3D models designed in any other software can also be printed using these machines. A 3D printer is a device that is specifically designed to print out models that are designed in software. Research states that 3D printing will be one of the most used technologies shortly. This is due to various facts like its simplicity, cost-efficient, it does not require many people to print out bulk products etc. Plastic is commonly used in 3D printers as it is easily meltable, and also holds its shape well when hardens. Nevertheless, 3D printing also has its disadvantages.

One of the most common disadvantages of 3D printing is anomalies. An anomaly is an error that is found in the end product of 3D printing. The major problem with anomalies is that they cannot be corrected when the 3D printer starts its process. Instead, one has to wait for the process to complete so that the anomaly can be corrected during the upcoming printing. There are different types of anomalies as well. This study aims the development of a deep learning model which is capable of predicting the presence of an anomaly in the finished product along with the type of the anomaly. The design and implementation of



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Supervised Learning Algorithm for Water Leakage Detection through the Pipelines

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Abstract- The water distribution system is an efficient, quick, cost-effective, and ecologically friendly method of providing water. Groundwater pipeline networks frequently lack planning as the population expands. Freshwater is often provided to end customers through a water supply network, which consists of subterranean and above-ground pipelines. The water distribution sector is increasingly concerned about leakage in water pipeline networks. This necessitates substantial development in leakage sensing technologies to both avoid and mitigate the potential of leakage. As a solution to this, in this study, a supervised learning algorithm-based water leakage detection through the pipeline idea is proposed. The dataset required for this study is collected in real-time using a hardware set. The hardware setup consists of a water storage tank that is connected with pipelines that are directed toward the consumers. The pipeline is fitted with microphones that measure the sound of the water flow through the pipeline and the values are stored in a Data Acquisition (DAQ) module. The values in DAQ are further analyzed by the computer system that is integrated with the DAQ. The dataset is further pre-processed and dimensionally reduced to make them compatible with Machine Learning (ML) models. The ML models used in this study further evaluate and classify the data values and helps in detecting the water leakage in pipelines. The ML model Naïve Bayes used in this study shows an accuracy of 97.5% and has the highest accuracy among the three ML

models used in this study and is concluded as the most efficient model among the other ML models.

Keywords- Water Distribution System, Leakage detection, models, Fourier Transform, Performance metrics.

1. INTRODUCTION

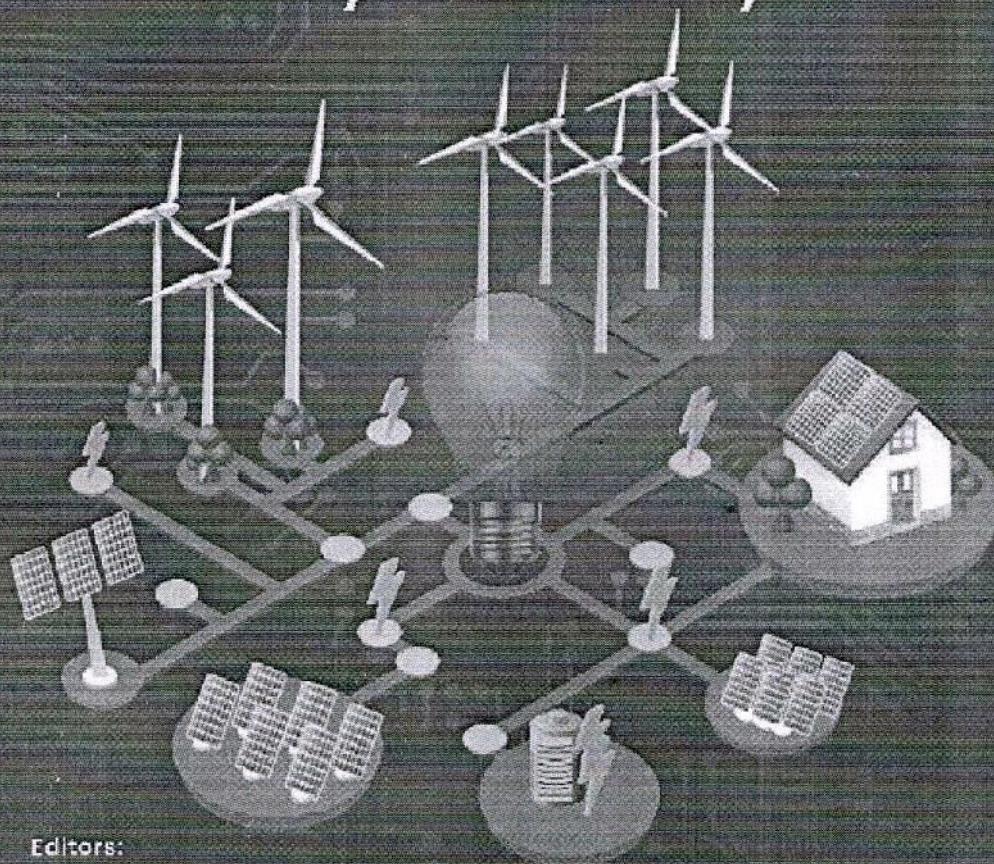
Water is an indispensable natural resource that is commonly mismanaged, with approximately one-third of global water utilities losing roughly 40% of their water due to leaks. Water lines installed generations earlier that are approaching the end of their useful life supply safe drinkable water to households and workplaces. This is a major issue as water leaks entail economic harm, infrastructural destruction, and soil degradation. Leaks in subterranean water supply systems lose over a billion gallons of water each year, causing a major economic impact on our community. Identifying and pinpointing leaks in water distribution systems, however, remains a daunting technological problem despite enormous development in this field. One of the most important services provided by the freshwater delivery mechanism is to the community. Unfortunately, due to the weakening of the groundwater piping system, a significant volume of water is squandered each year, most of which goes unreported. Estimating groundwater pipeline collapse remains a daunting issue due to its complicated subsurface environment. Many organizations' current approaches are to repair pipelines when breaches are explicitly spotted. However, several minor leakages go unnoticed till the



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Introduction To Machine Learning Techniques

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5.1 Why and What is Machine Learning?

Machine learning (ML), an integral part of artificial intelligence (AI), has emerged as one of the most important technologies in today's world. So what do these terms mean? In this chapter, the concept and involved techniques in ML have been elucidated.

AI has the potential to make decisions like humans and consists of standard rules encoded in the form of computer programs. Computers and computational techniques are included in the central field of computer science. The ML algorithms learn from the processed data and build predictions on that data. It is possible to alter the action and reaction of large data in ML to achieve higher adaptability, efficiency, and scalability. Next, deep learning is also a specific kind of advanced ML which uses deep neural networks to solve distinct problems. The deep neural network implements minuscule computations on numerous layers for performing duties like humans [1]. The American pioneer in the AI and computer gaming area, Arthur Samuel, first introduced the ML phrase in 1959 and defined it as follows: "it gives computers the ability to learn without being explicitly programmed."

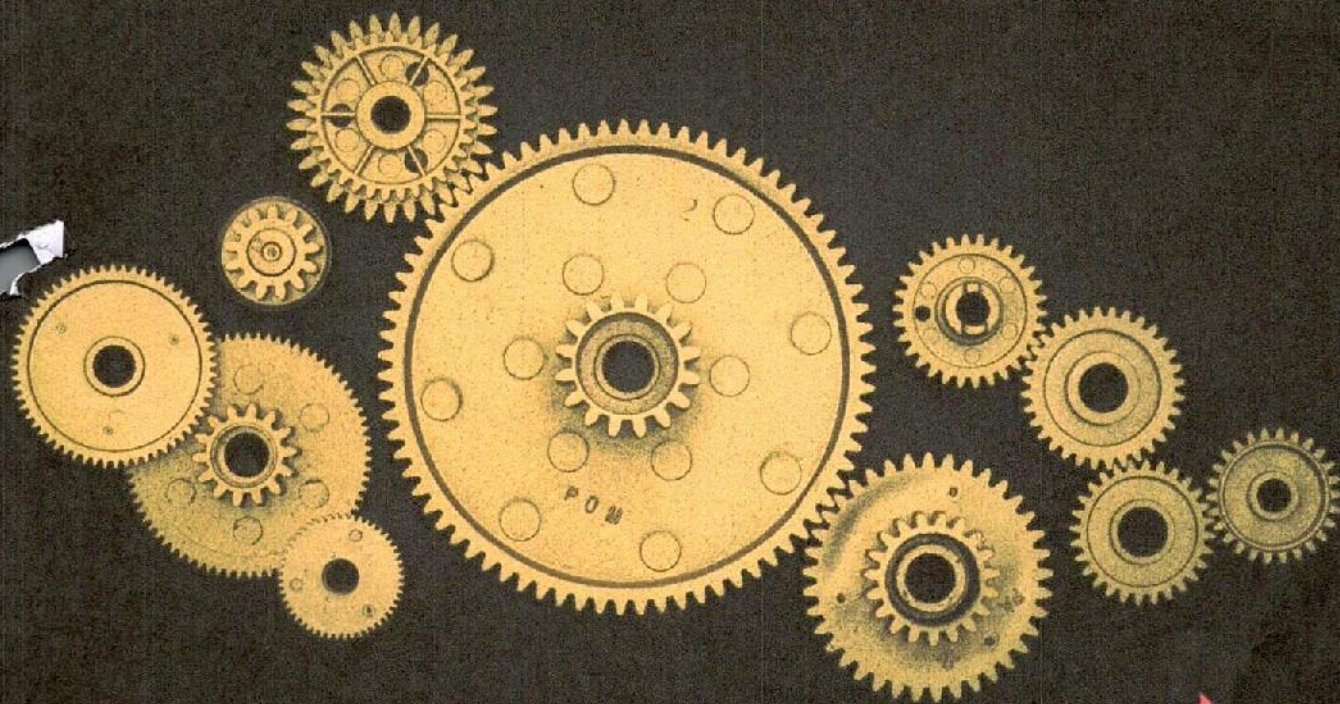



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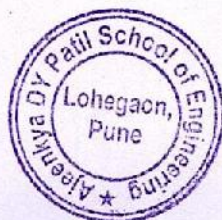




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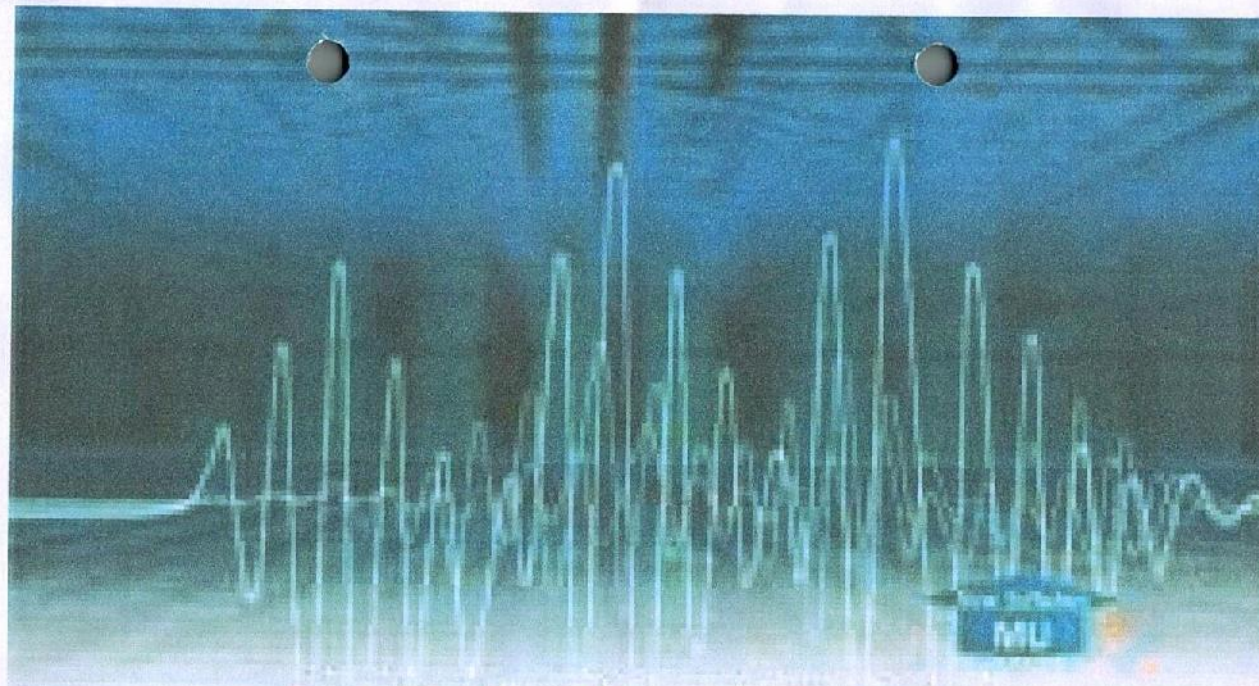

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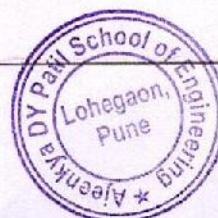
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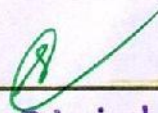
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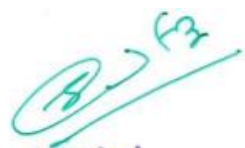
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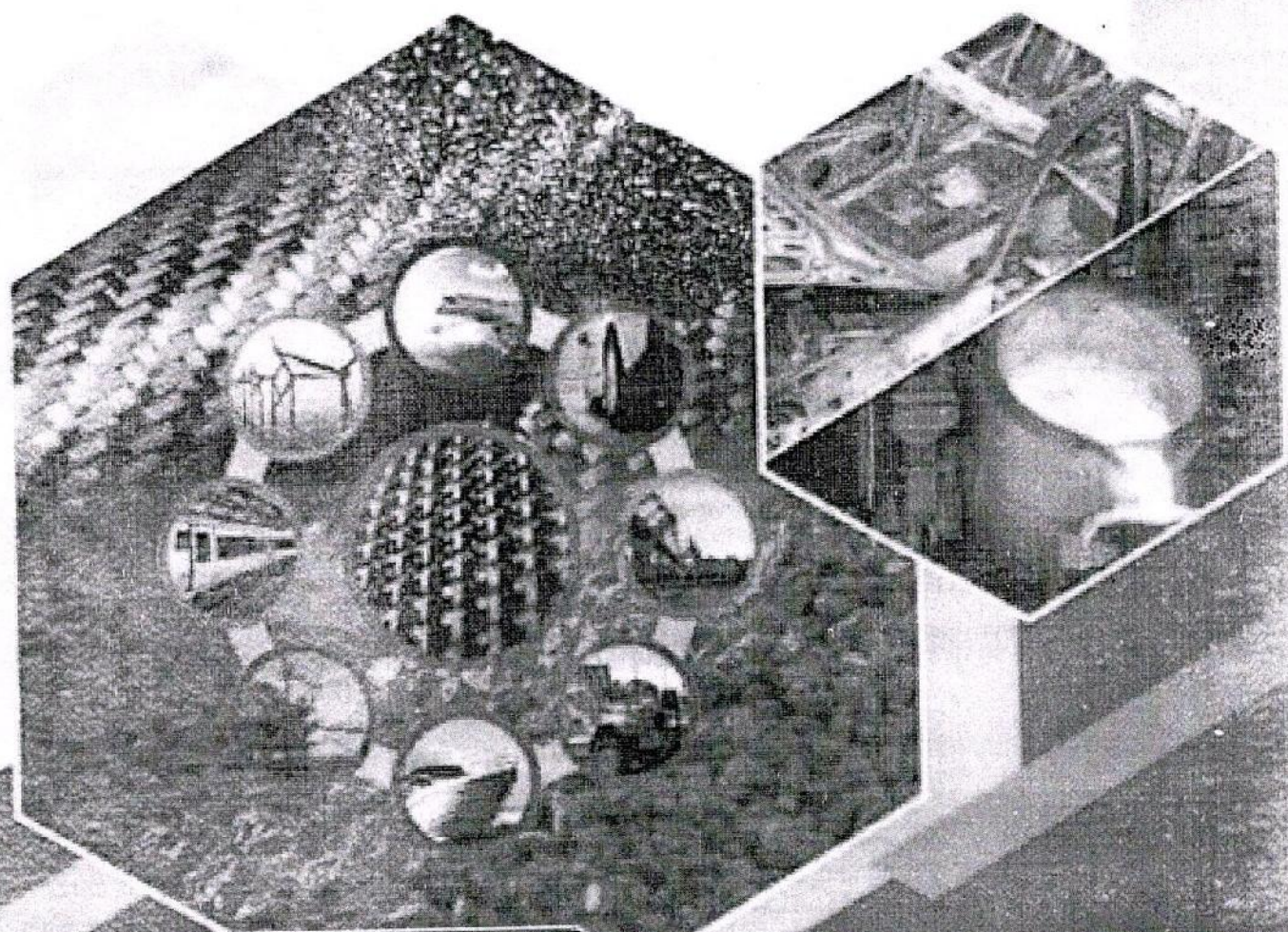
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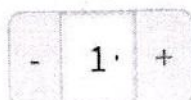
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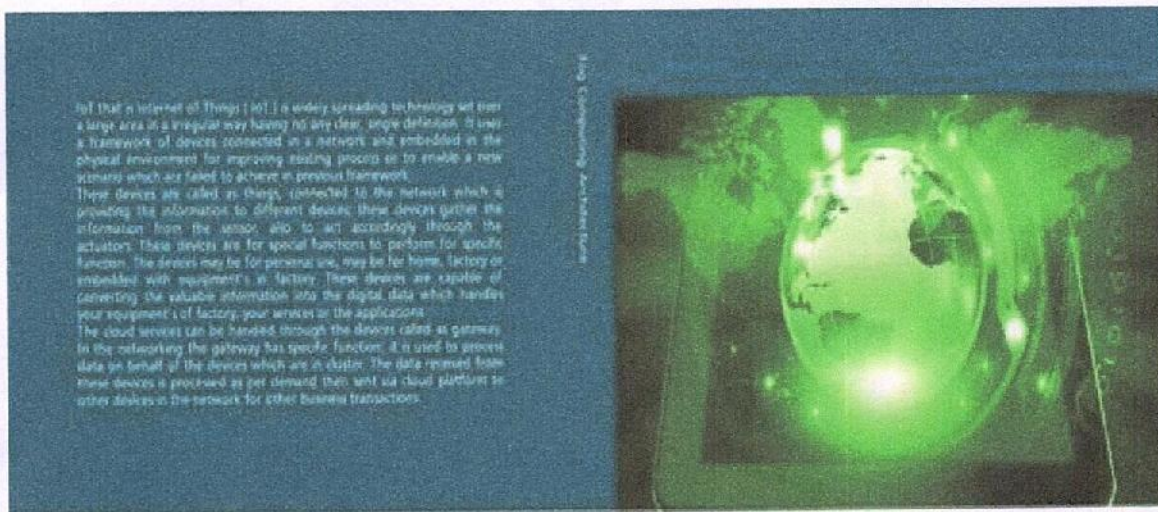
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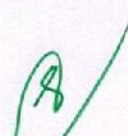
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IoT that is Internet of Things (IoT) is widely spreading technology set over a large area in a irregular way having no any clear, single definition. It uses a framework of devices connected in a network and embedded in the physical environment for improving existing process or to enable a new scenario which are failed to achieve in previous framework. These devices are called as things, connected to the network which is providing the information to different devices; these devices gather the information from the sensor, also to act accordingly through the actuators. These devices are for special functions to perform for specific functions. The devices may be for personal use, may be for home, factory or embedded with equipment in the factory. These devices are capable of converting the valuable information into the digital data which handles your equipment's factory, your services or the applications. The cloud services can be handled through the devices called as gateway. In the networking the gateway has a specific function; it is used to process data on behalf of the devices which are in the cluster. The data received from these devices is processed as per demand then sent via cloud platform to other devices in the network for other business transactions.

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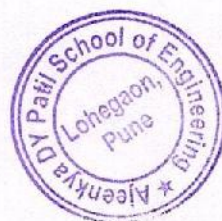
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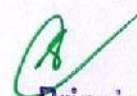
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This book focuses on the use of RF technology along with Wireless sensor network helps to find out different approaches to solve the problem for critically ill patients. Smart patient monitoring system based on wireless sensor networks focuses to make life of mainly diabetes patients happy. System expects that the work contributes towards the development of sugar management. A smart patient monitoring system can provide life and time cost savings for patients. It also reduces some burden on doctor too. As experts may not visit the patient frequently to monitor its health condition. The sensors used for demonstration of concept are general. The resistive type temperature and Pulse rate sensors show good sensitivity. The RF communication is noise free. RF and LPC2138 provide low power platform. Advanced wireless patient monitoring systems will eventually become common in residential and hospital management because it is more efficient than the previous systems. The primary goal of this book is to explore the design of a reliable embedded system that will be helpful for Patients as well as doctors. The lifetime of patient is increased through the WSNs and wireless communication.

Book Details:

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ISBN-10:	620421117X
EAN:	9786204211176
Book language:	English
By (author) :	Saniya Ansari Neeta Desai
Number of pages:	104
Published on:	2021-10-14




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In this book the technique for resolution and contrast enhancement of satellite geographical images based on discrete wavelet transform (DWT), stationary wavelet transform (SWT) and singular value decomposition (SVD) has been proposed. In this, for low resolution and low contrast image, how median filter is used to remove noise is explained. This noiseless low resolution, low contrast image is decomposed into four sub-bands using DWT and SWT. The resolution enhancement is based on the bicubic interpolation of high frequency components obtained by DWT. SWT is used to enhance the input image. All sub-bands are reconstructed as high resolution image by using inverse DWT (IDWT). For contrast enhancement the technique uses DWT and SVD. All sub-bands are reconstructed using IDWT to generate high resolution and high contrast image over conventional techniques. The peak signal-to-noise ratio and root mean square error are then calculated.



Prajakta Khairnar

Prof. Prajakta Khairnar with 12 years of experience in Electronics field completed ME Electronics from JSCOE, Pune and BE from Dr D Y Patil Women's College of Engineering, Pimpri, Pune University. Total 7 Papers are Published by her in National and International Journals and conferences.

Noisy Satellite Image Enhancement with wavelet Transforms




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The magnesium and its different alloys material specially AZ91 is commonly used in most of the engineering applications such as aerospace, automobiles, machines and their applications. The magnesium and its different alloys material specially AZ91 have high stiffness, low in density and electromagnetic protecting things, which are pretty to use this material for the various industrial components. Corrosion and hardness is a major drawback of this magnesium alloy, which limits their practical applications. Electroless Nano-coating is one of the present-day techniques for enhancement in corrosion and hardness of AZ91 alloy. In this book investigation of enhancement in surface properties of electroless Ni-B-TiO₂ coat in a comprehensive and systematic manner is presented.



Dr F B Sayyad



Dr F B Sayyad is currently Principal of Dr D Y Patil School of Engineering, Pune. He is Post Doctorate Fellow from Malaysia University. With nearly two decades of teaching experience, he is also an author of Theory of Machines, Dynamics of Machinery, Mechanical Vibration & Noise Engineering, Manufacturing Process, Machining Science and Metallurgy.



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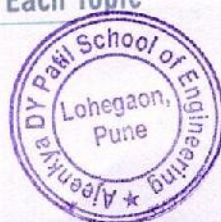
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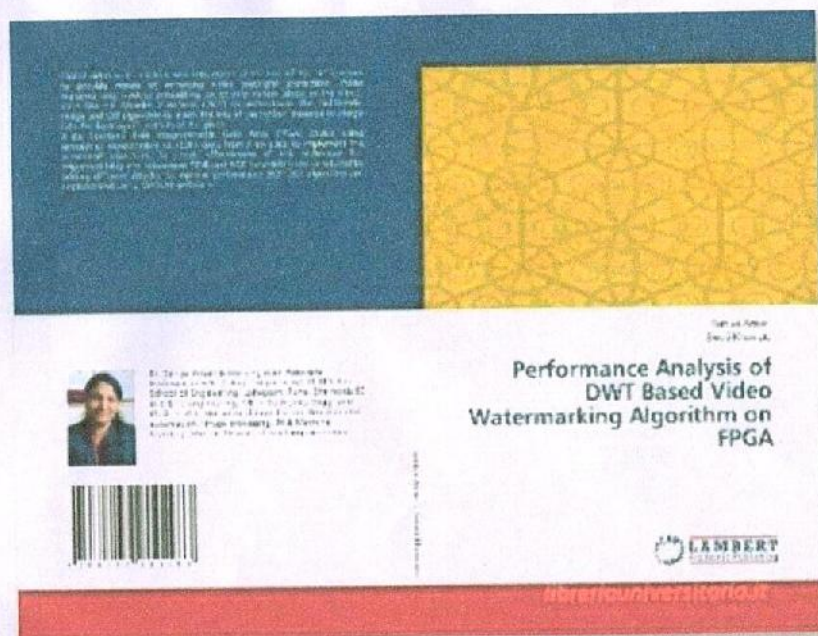
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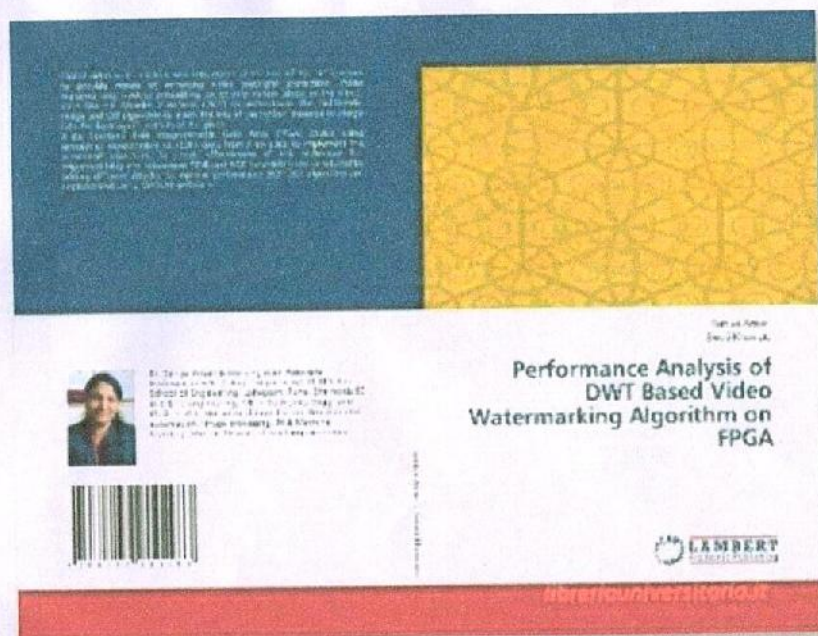
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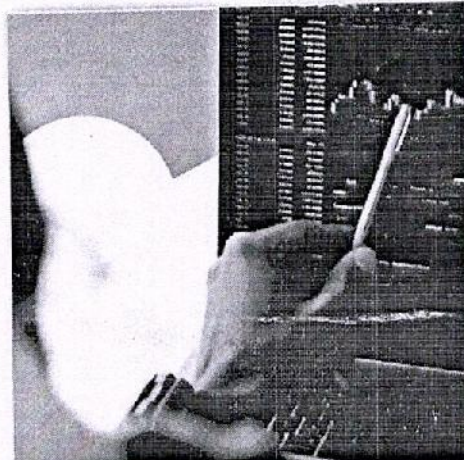
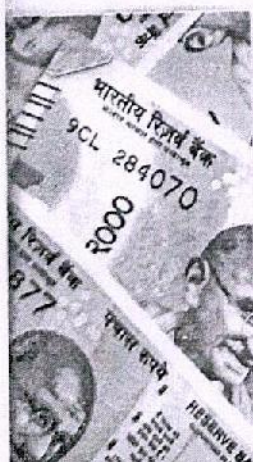
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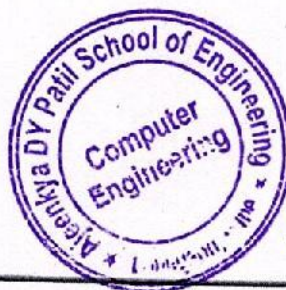
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□□



About the Authors



Dr. Pankaj M Agarkar

Dr. Pankaj M Agarkar, HOD Computer Engineering Department at Dr D Y Patil School of Engineering, Lohgaon Pune is having more than 22 years teaching experienced in IT, Computer engineering subjects.

Having expertise in subjects like High performance computing, Clouding Computing, Data Mining, Data science he has made his computer engineering department a well reputed computer engineering department in university.

He has guided more than 20 Post Graduate students, 100 UG students and he has guiding PhD students in various universities. He has published more than 70 research papers in his credit.

He has organized International conferences, FDPs, Seminar at his organization for students as well as staff. He handles various portfolios like NAAC, R/D at department levels.

He has possess professional body member ship of CSI & ISTE, IEEE, and ACM. He has reviewer of national & International research publications in very renowned journals & conferences which are peer reviewed, Scopus indexed and AICTE, UGC recommended namely IEEE, ACM and Elsevier.



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He has 6 years teaching experience and 2 year industrial experience with this he have 8 year of research experience as well.

He had 19 national & international research publications in very renowned journals & conferences which are peer reviewed, Scopus indexed and AICTE, UGC recommended namely IEEE, ACM, and Elsevier.

Additional quality he does freelancing for various software companies & technical consultant at college level accreditation process like NAAC & NBA and also in the field of Networking, Research and Paper Publication.

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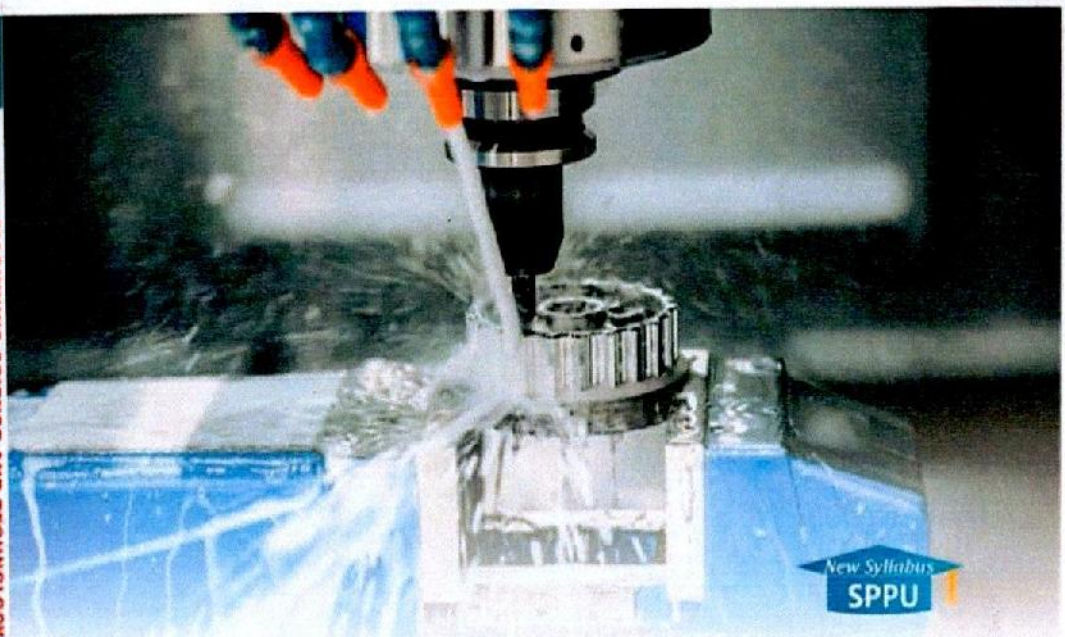
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Sanjay Koli



Dr. Sanjay Koli has received B.E. degree in 1997, M.Tech. degree in 2006 and Ph.D. degree in 2015. He is currently working as a Professor in the department of E&TC Engineering at Dr. D. Y. Patil School of Engineering, Pune, India and has total academic teaching experience of 24 years. His research interest includes Wireless Networks.

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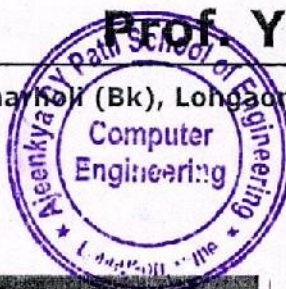
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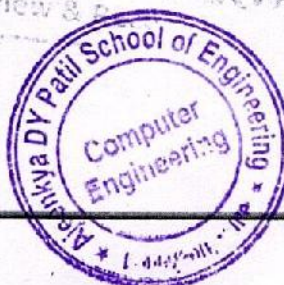
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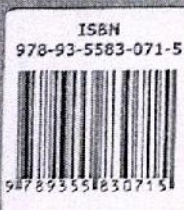
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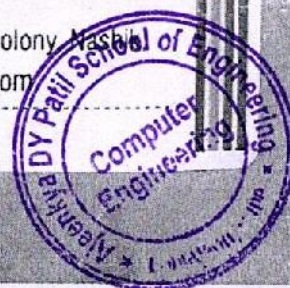
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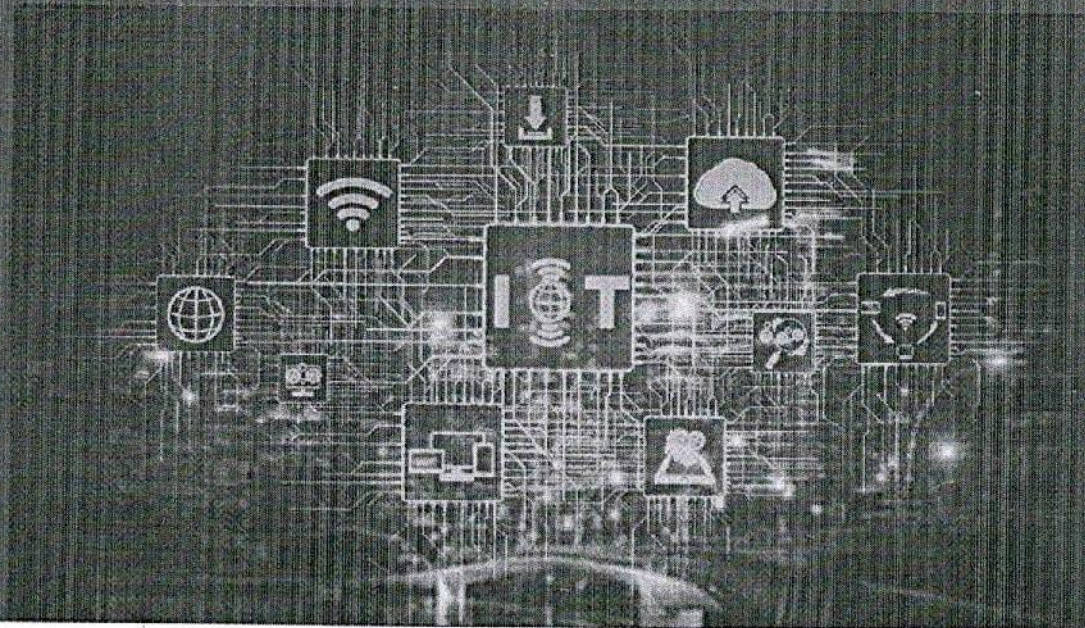
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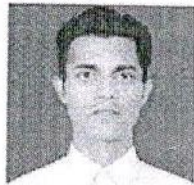


The primary objective of this book is to understand the development of an intelligent sensor interface device for the data collection of industrial wireless sensor networks (WSN) in IoT environments. However, the current connect number, sampling rate, and signal types of sensors are generally restricted by the device. Meanwhile, in the Internet of Things (IoT) environment, each sensor connected to the device is required to write complicated and cumbersome data collection program code. In order to overcome the issues, a new method is proposed to design a Smart Sensor Interface using IEEE1451.2 Protocol for Industrial in IoT Environment., in which ARM7 is adopted as the core controller. It can read data in parallel and in real time with high speed on multiple different sensor data. The standard of IEEE1451.2 intelligent sensor interface specification is adopted for this design. It comprehensively stipulates the smart sensor hardware and software design framework and relevant interface protocol to realize the intelligent acquisition for common sensors.

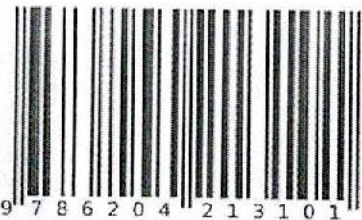


Riyaj Kazi

Gaurav Tiwari



Mr. Riyaj Kazi is working as an Assistant Professor in Electronics & Telecommunication Engineering Department of Dr D Y Patil School of Engineering, Pune- India. He holds Masters of Electronics Engineering. He has 25 years of experience in Industrial Research & Development of Power Electronic Systems & Blended Teaching in Academics since 1996.



Intelligent Smart Sensor Interface for Industrial WSN using IoT



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1	First International Conference on Computer Engineering_ DYPICCE 2020	ISSN: 2395-6011 Online ISSN: 2395-602X
Books Published		
Sr. No.	Name of the teacher/Author	ISBN Number
1	Dr. F. B. Sayyad	978-93-90694-36-5
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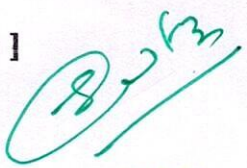
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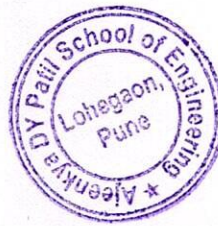
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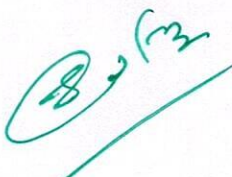
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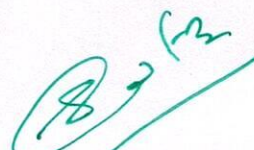
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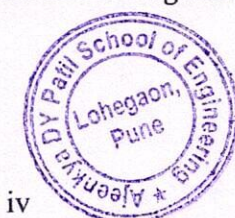
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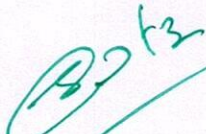
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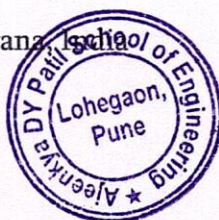


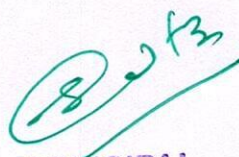

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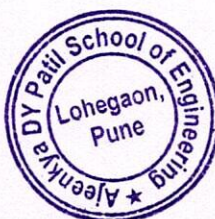

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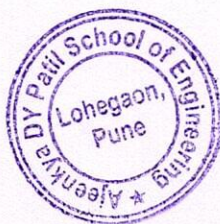
Computer Engineering Department of Dr D Y Patil School of Engineering, Lohegaon, Pune had organized the First International Conference on Computer Engineering “DYPICCE 2020” on 17th-18th December 2020. This Conference was organized in association with International Journal of Scientific Research in Science and Technology (IJSRST) and was sponsored by Techno Science Academy-The International Open Access Publisher.

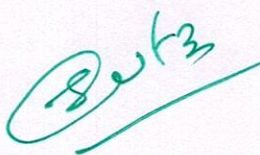
For this conference, International Entries for Paper Submission were received from South Africa, Egypt and Kenya. At National Level, entries were received from Madhya Pradesh, Rajasthan and Maharashtra.

The Two Days E-Conference was organized in to 16 Sessions to be conducted on Zoom Platform. Each Session was organized by a Session Coordinator (Internal Faculty of Computer Department) and judged by a Session Chair. The conference had received 16 Session Chairs who are either Experienced IT Professionals or Senior Academicians working at International Places like U.S, Ireland and at National Level, at Madhya Pradesh, Karnataka, Maharashtra and Gujrat.

On Day-I (17th December), Conference Inauguration and Presentation by Winners of Best Paper Award was conducted from 10.00 AM-12.00 PM under Dr. Sheshang D. Degadwala- Executive Editor (IJSRST) as Session Chair. On Day-II, 15 Sessions were conducted in parallel from 2.00 PM to 4.00 PM.

The conference was executed successfully under the support and guidance of Dr Pankaj Agarkar-HOD Computer Engineering. Dr Ashok Kasnale- Principal DYPSOE gave huge support and encouragement to the Conference. Dr Farook Sayyad- Dean Academics-DYPSOE motivated and encouraged the conference. The conference was successfully coordinated by Convener Prof Monika Dangore and Co-Convener Prof Pooja Shinde along with Dr Bhavesh Kataria - Executive Editor (IJSRST).




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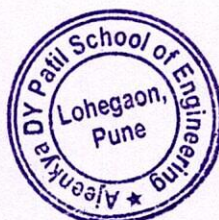
Day-I : 17th December 2020

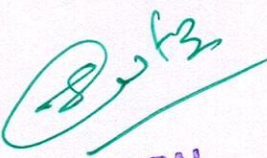
Winners of Best Papers Award (declared by IJSRST) :

Rank	Paper Title	Name of Authors
1	Development Of Tumorphunt Algorithm For Brain Tumor Segmentation Using Machine Learning Cnn Model	Smita Kakade (JJTU Rajasthan), Deepali Hirolikar (JJTU Rajasthan), Dr.Vinod M. Vaze(JJTU Rajasthan), Dr. Pankaj Agarkar (DYP SOE, Pune)
2	Artificial Intelligence based COVID-19 classification by using Deep Learning and Convolutional Neural Network	Omkar Gaikwad, Divyanshu Tripathi, Madhuri Dange , Prof.Pallavi Shimpi (Dr.D.Y.Patil School Of Engineering, Pune)
3	A Framework for Analyzing Real-Time Tweets to Detect Terrorist Activities	Akshay Karale ,Pranav Shinde ,Pushpak Patil ,Sanjay Parmar ,Prof. Niyamat Ujlloomwale (Dr.D.Y.Patil School Of Engineering, Pune)

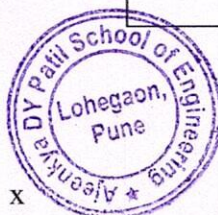
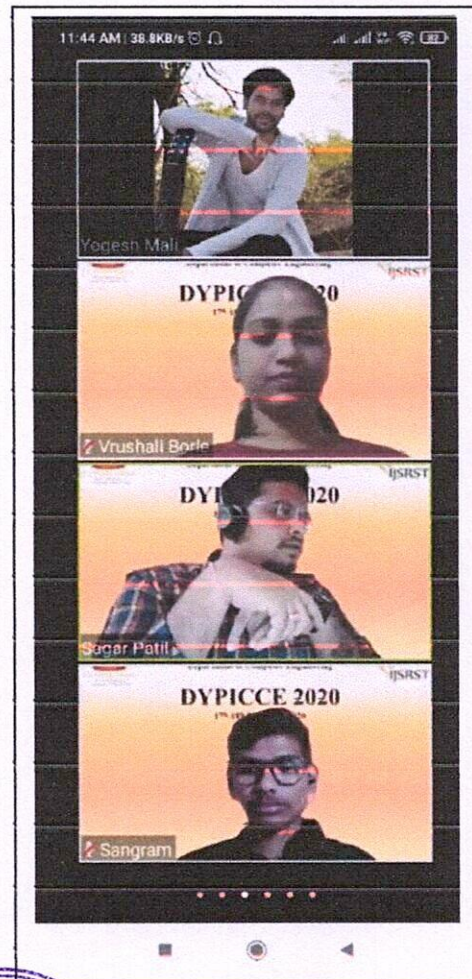
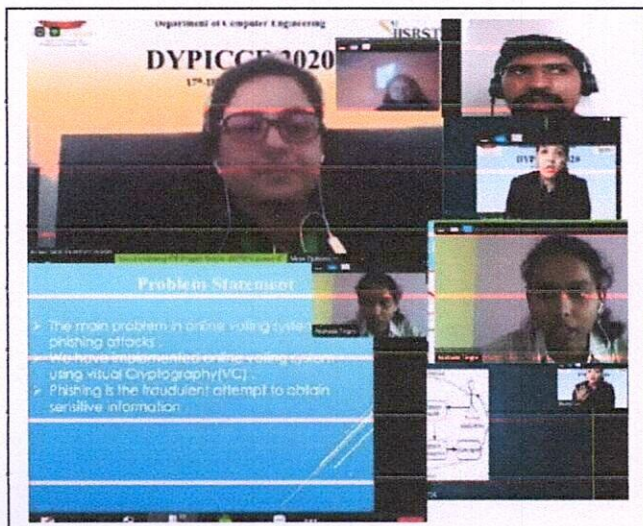
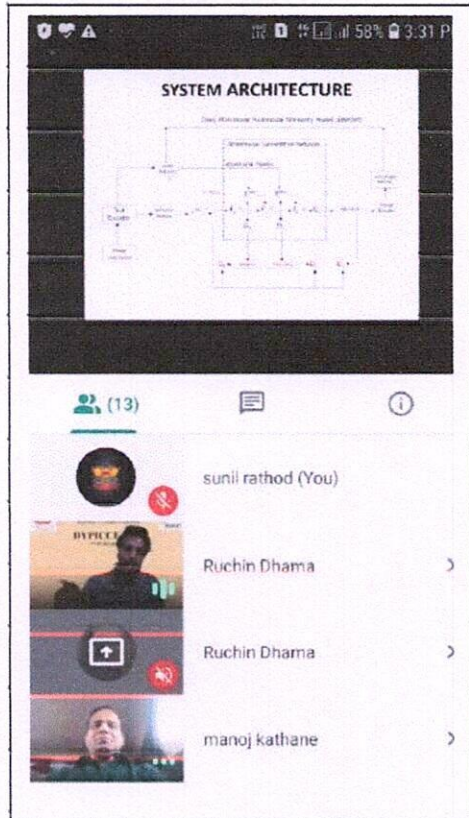



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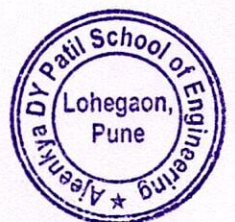
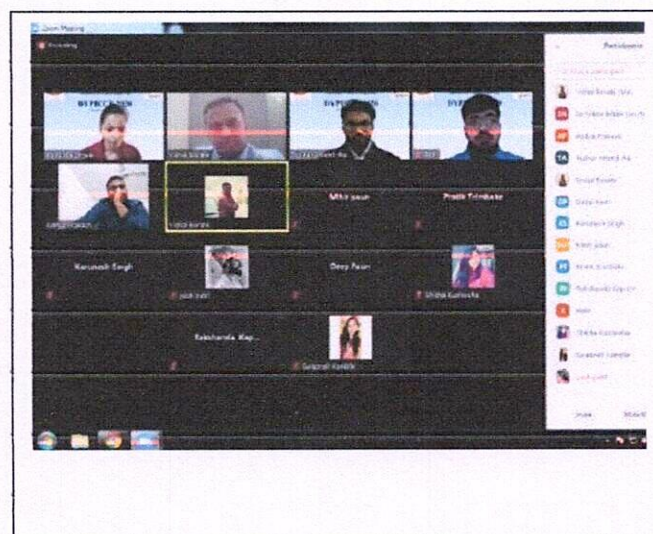
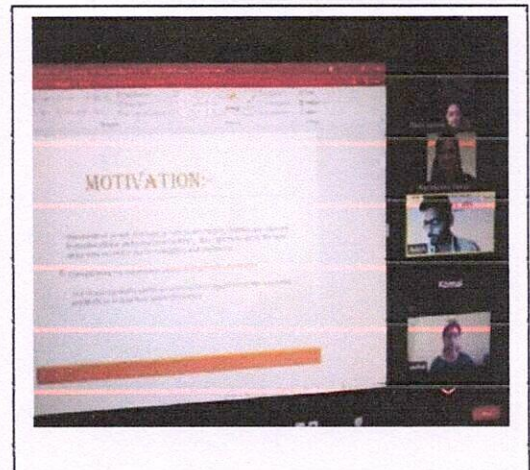
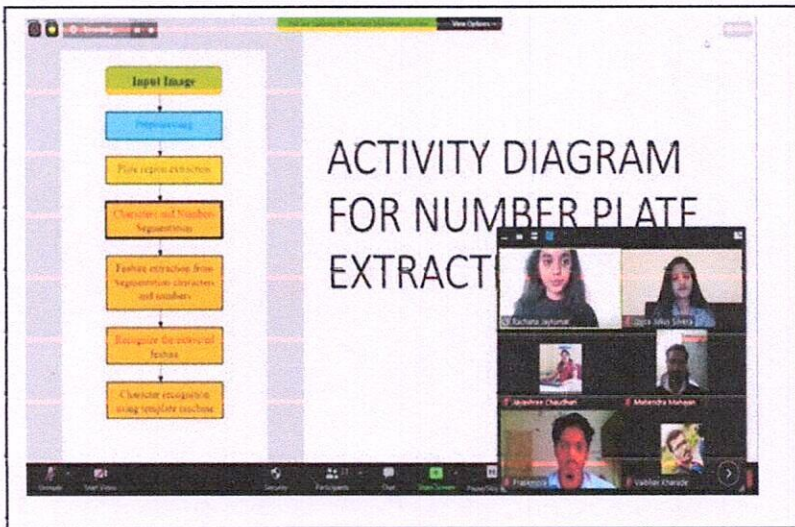
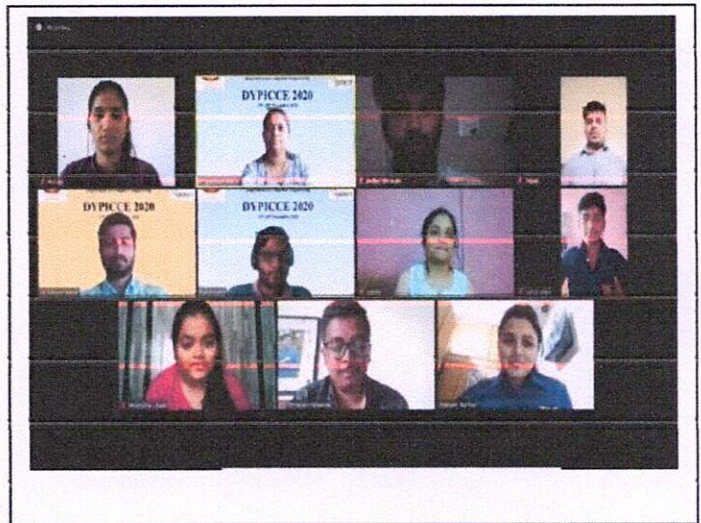
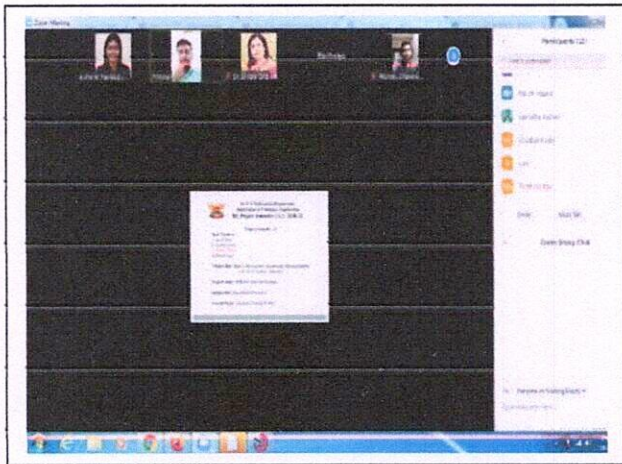



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Day-II : 18th December 2020

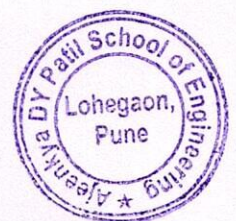
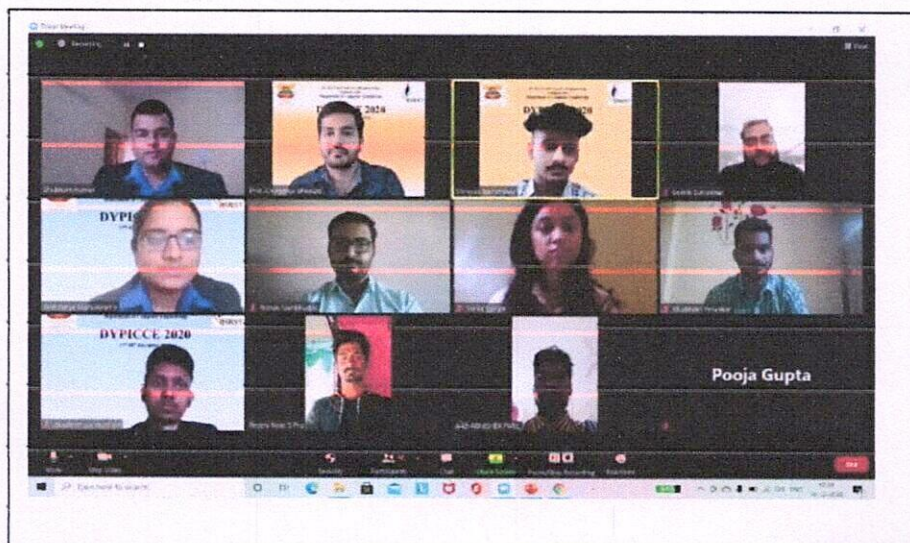
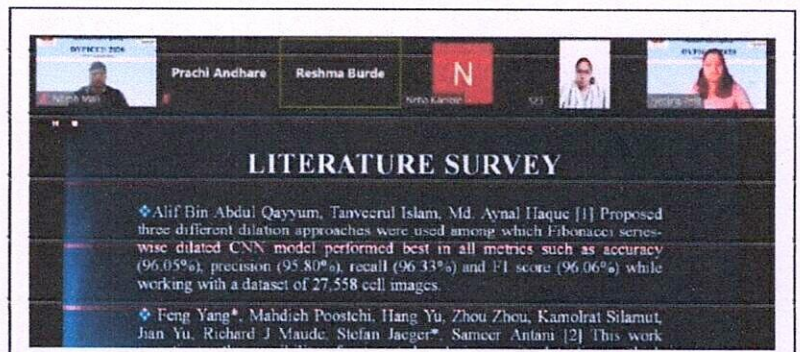
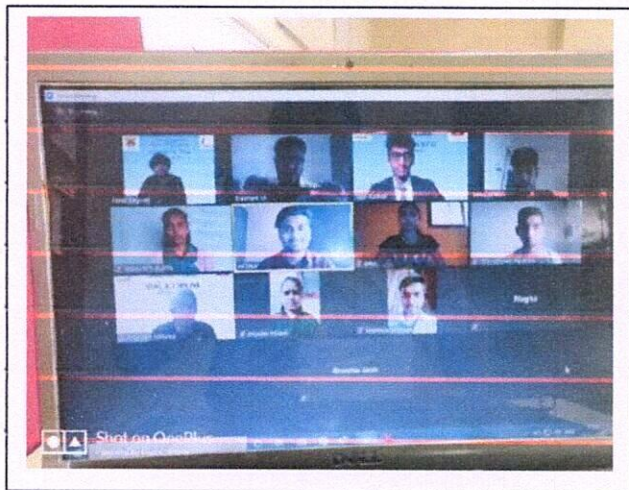
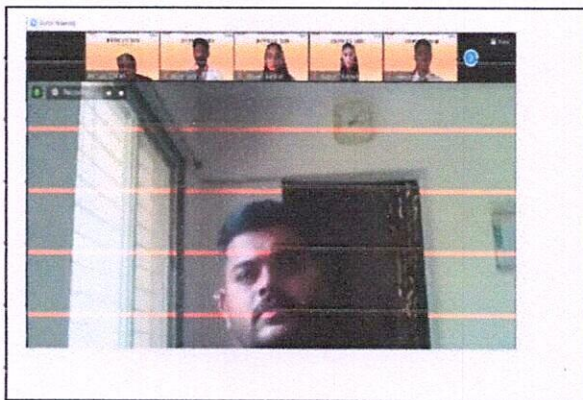



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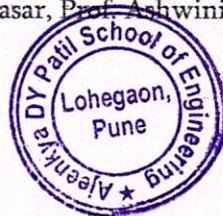
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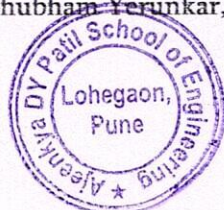
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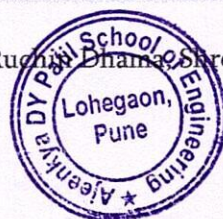
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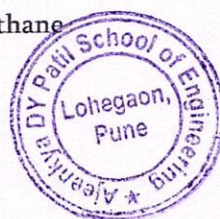
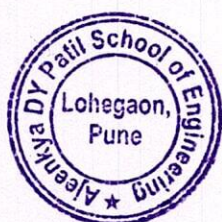
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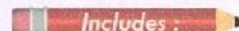
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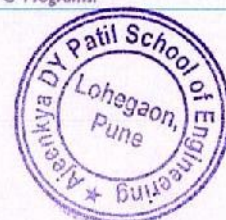
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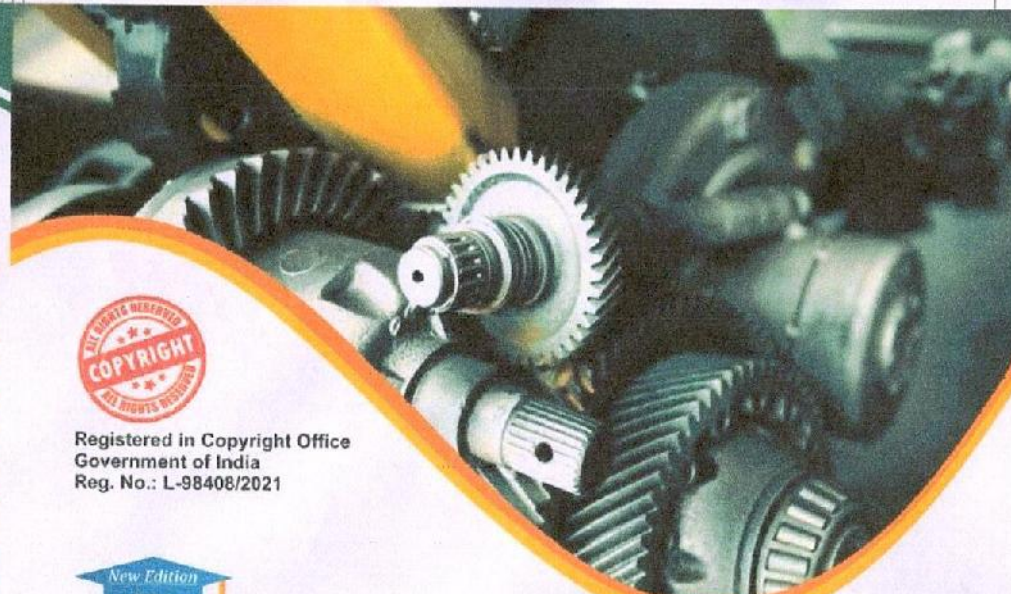
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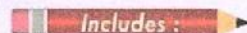
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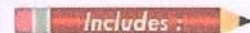


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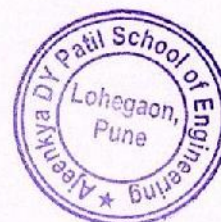
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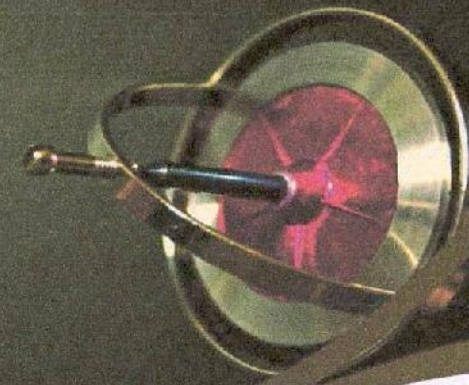
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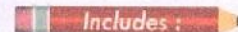
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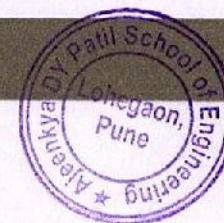
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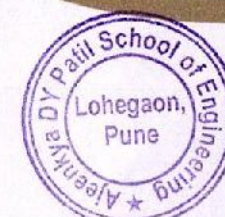
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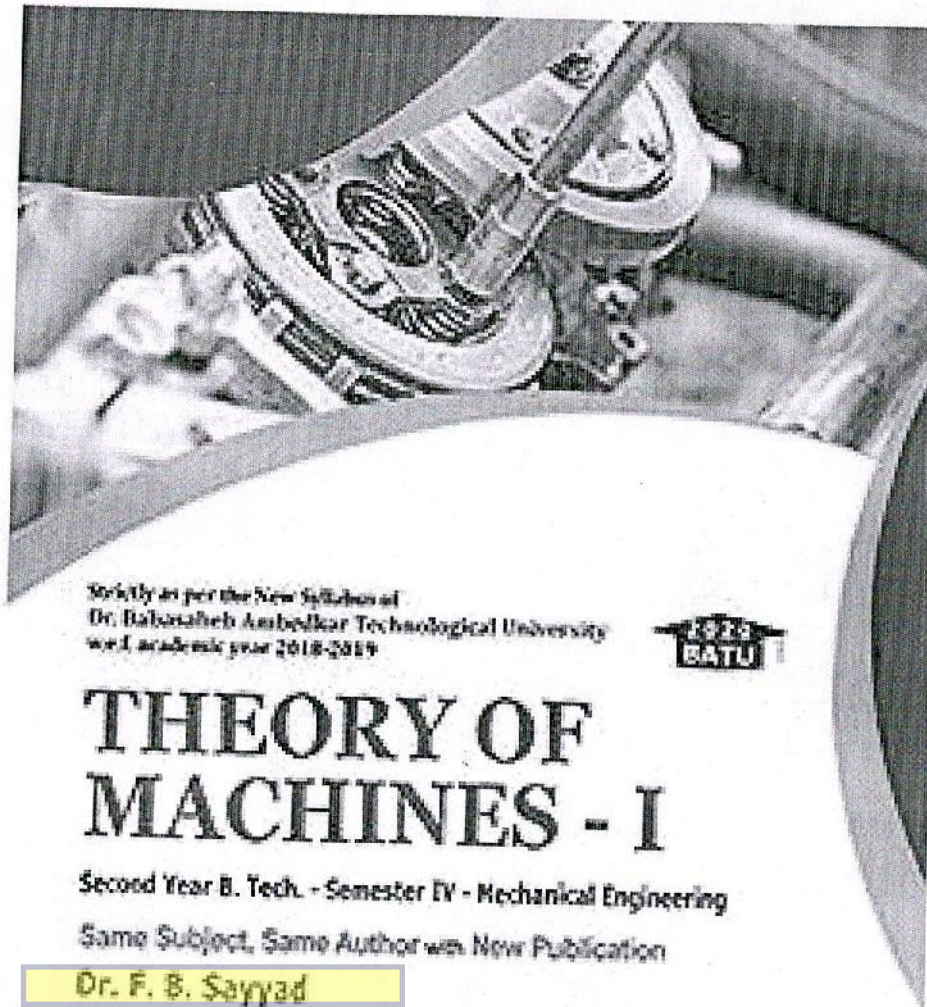
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
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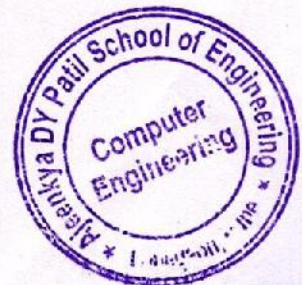
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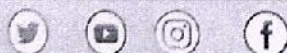
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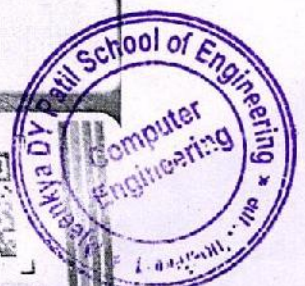
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Malathi P. Jesudason

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ABSTRACT

This chapter explores the encryption techniques used for the internet of things (IoT). The security algorithm used for IoT should follow many constraints of an embedded system. Hence, lightweight cryptography is an optimum security solution for IoT devices. This chapter mainly describes the need for security in IoT, the concept of lightweight cryptography, and various cryptographic algorithms along with their shortcomings given IoT. This chapter also describes the principle of operation of all the above algorithms along with their security analysis. Moreover, based on the algorithm size (i.e., the required number of gate equivalent, block size, key size, throughput, and execution speed of the algorithm), the chapter reports the comparative analysis of their performance. The chapter discusses the merits and demerits of these algorithms along with their use in the IoT system.

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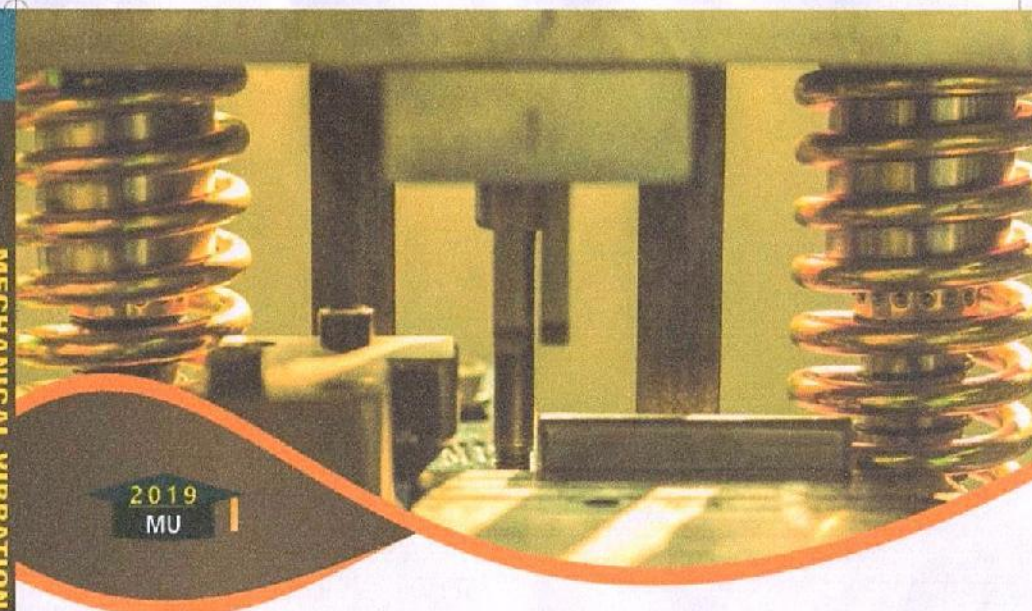
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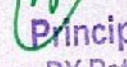
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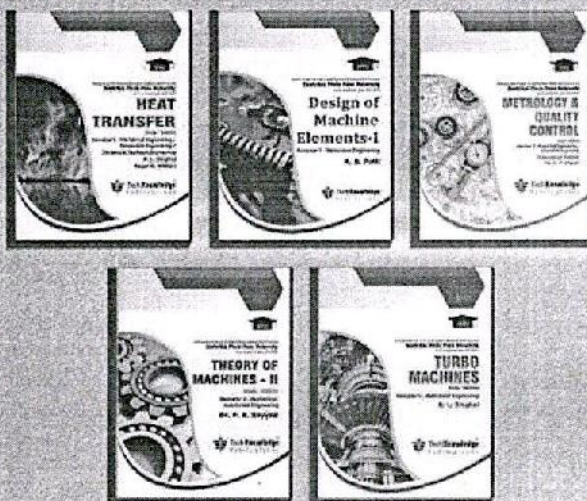
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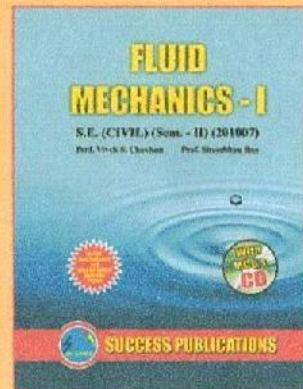
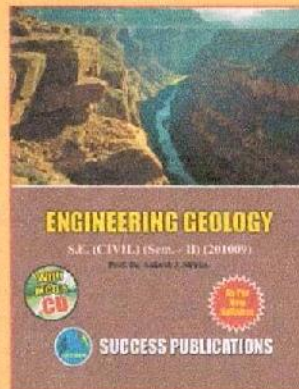
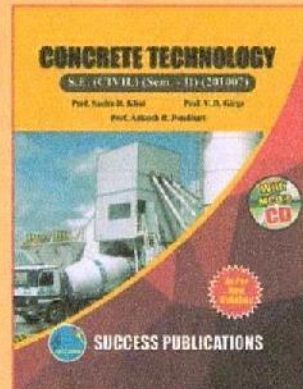
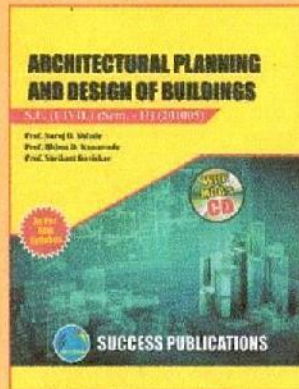
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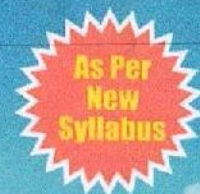
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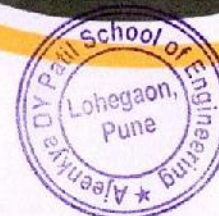
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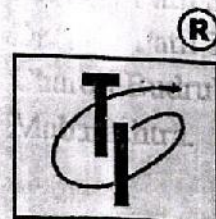
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