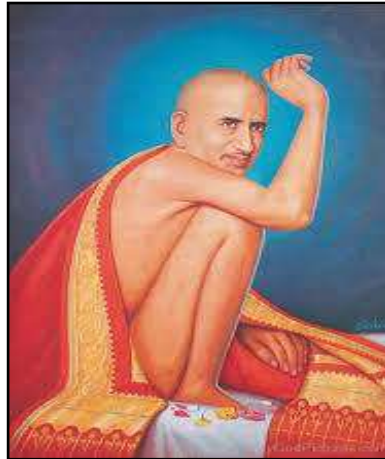


**NEWS LETTER - NOVEMBER 2024**



**Vision**

Empowerment through Knowledge

**Mission**

To educate the students to transform them as professionally competent and quality conscious engineers by providing conducive environment for teaching, learning, and overall personality development, culminating the Institute into an International seat of excellence.

**NEWS LETTER - NOVEMBER 2024**

**College Team:**

Dr. Mrs. P. Malathi, Principal

Dr. Sandeep S. Sarnobat, Vice Principal

Dr. Madhuri A. Potey , HOD, Computer Engineering

Dr. Preeti Patil, HOD, Information Technology

Dr. Bhausahab B. Musmade, HOD, Instrumentation & Control

Dr. Ashok More, HOD, Civil Engineering

Dr. Pravin T. Nitnaware , HOD, Mechanical Engineering

Dr. Vinayak G. Kottawar, HOD, Artificial Intelligence & Data Science

Dr. Nitin K. Kamble, HOD, Robotics & Automation

Dr. Rutuja Deshmukh, HOD, Electronics & Telecommunication

Dr. Manisha Tanwer ,HOD, F Y B Tech

Dr. Sanjay K. Babar, Dean First Year

Dr. Sandeep Shiyekar, R&D Co-ordinator

Dr. Vinay A. Kulkarni, OBE Co-ordinator

Dr. Manish Sharma, Innovation Cell Co-ordinator

Mrs. Trupti Wagh, Student Affairs Co-ordinator

Mr. Lalit Chaudhary, Training and Placement Officer

Mr. Prashant Bhalerao, Registrar

**Department Activities : Induction Activity**

1. For First Year B Tech student on 09 November 2024, under induction activity, guest lecture of Financial Management had conducted for Cycle-I at 10:00-11:00 am and for cycle –II at 11:30a am-12:30 pm. For this Guest lecture we had Mr. Ulhas Tilekar Director Zen Wealth4U as recourses person.



**Financial Management Guest lecture**

**Name of Faculty Coordinator :** Mr. Ganesh Nimgire

**Dr. Manisha Tanwer**  
Head of F Y B Tech Department

**NEWS LETTER NOVEMBER 2024**

**Department Activities : Induction Activity**

1. For First Year B Tech student on 09 November 2024, under induction activity, Workshop on CPR (Cardiopulmonary Resuscitation) activity had conducted for Cycle-I at 9:00-10:00 am and for cycle -II at 12:30a pm-1:30 pm. For this Guest lecture we had Mr. Arjun Rambhau Director, Civil Defense Force as recourses person.



**CPR activity Session**

**Name of Faculty Coordinator :**

Mr.Ganesh Nimgire

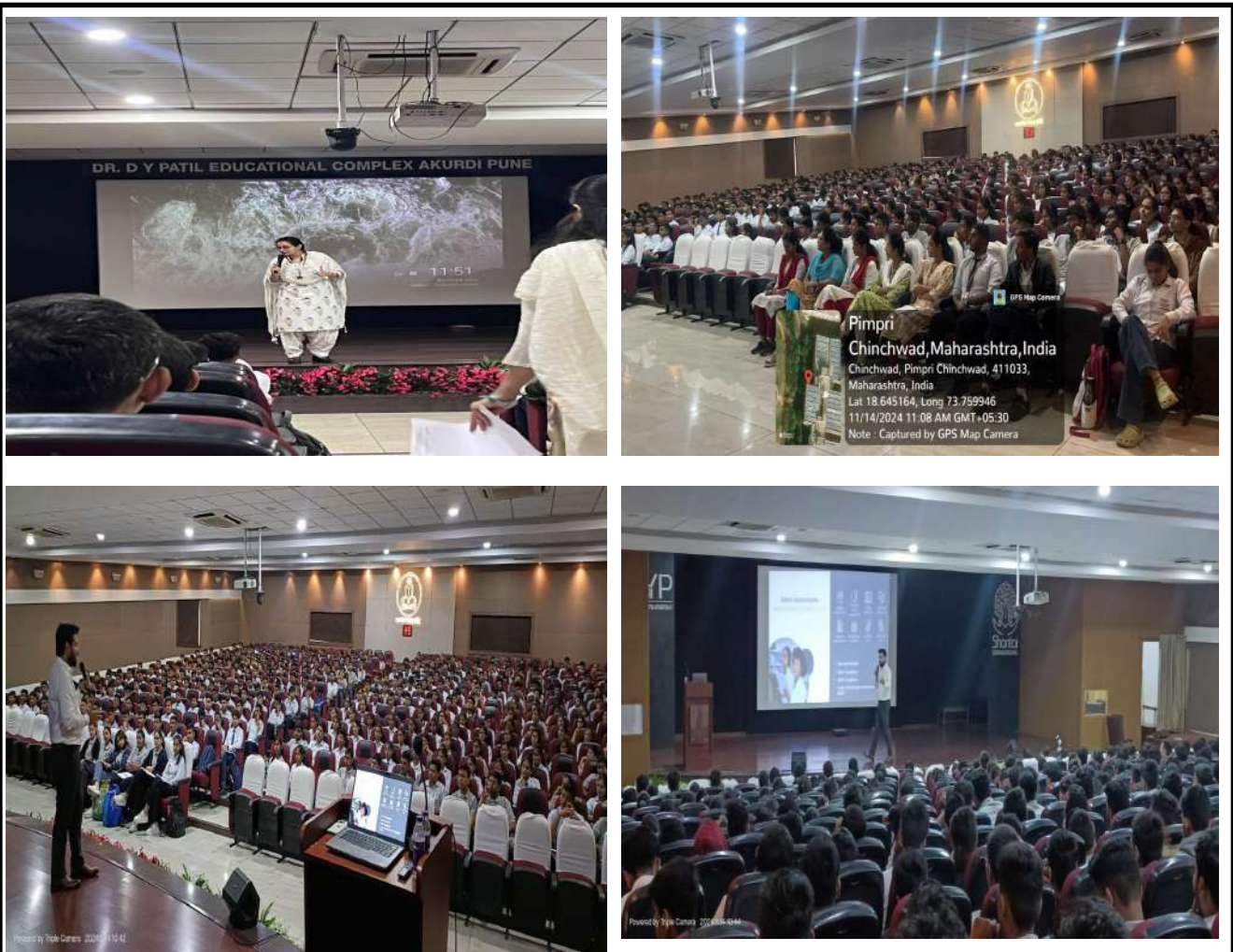
**Dr. Manisha Tanwer**

Head of F Y B Tech Department

**NEWS LETTER NOVEMBER 2024**

**Department Activities : Induction Activity**

1. For First Year B Tech student on 14 November 2024, a awareness session on Employability Assessment and Importance had conducted for all FYB Tech Students.



**Awareness session on Employability Assessment**

**Name of Faculty Coordinator :**

Mr.Ganesh Nimgire

**Dr.Manisha Tanwer**

Head of F Y B Tech Department

NEWS LETTER NOVEMBER 2024

Faculty Achievement :

1. Dr.Pranjali Shinde and Mrs.Deepali Dubal had completed NPTEL Course on “ Developing Soft skills and Personality” on 20 November.



**Elite**  
**NPTEL ONLINE CERTIFICATION**  
(Funded by the MoE, Govt. of India)

This certificate is awarded to  
**MRS DEEPALI SUDHIR DUBAL**  
for successfully completing the course  
**Developing Soft Skills and Personality**

with a consolidated score of **83** %

Online Assignments	23.29/25	Proctored Exam	60/75
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Total number of candidates certified in this course: **10687**

*Pathish*  
**Prof. B. V. Ratish Kumar**  
Chairman, Centre for Continuing Education  
IIT Kanpur

**Aug-Oct 2024**  
(8 week course)

*Satyaki Roy*  
**Prof. Satyaki Roy**  
NPTEL Coordinator  
IIT Kanpur

 Indian Institute of Technology Kanpur



Roll No: NPTEL24HS176S552001570 To verify the certificate  No. of credits recommended: 2 or 3

**NPTEL Course**

Name of Faculty Coordinator :

Mr.Ganesh Nimgire

Dr.Manisha Tanwer

Head of F Y B Tech Department

**NEWS LETTER NOVEMBER 2024**

**Departmental Activities/Participation :**

1. Department of Civil Engineering have conducted site visit for SE students at “Ladies hostel construction “ at DYP COE, Akurdi, Pune.
2. Department of Civil Engineering have organized Skill Development Program like AutoCAD and Revit organized for SE Students.
3. Department of Civil Engineering have organized Value Added Course on “Recent skills and Techniques in civil Engineering field “ organized for SE students by KnowHow School Consultancy Pvt.Ltd.

**Faculty Achievement/Participation**

1. Dr. Ashok More Invited as Resource Person Delivered Online session of Faculty Development Program under the title " New Trends in Solid Waste Management for organic content of MSW " on 08 to 09 November 2024 at Yashwantrao Bhonsale Institute of Technology, Sawantwadi.
2. Dr. Smita Pataskar Appointed as External examiner for assessing M.Tech students on 14th November 2024.
3. Dr. Mrs. Prital Kalasur Awarded Ph.D Thesis on topic : Sugarcane Bagasse Ash as partial replacement of cement in self compacting concrete - An experimental Investigation from Sandip University, Nashik.
4. Dr Ashok More, Dr Ashwini Patil, Mr Sunil Paygaon, Dr Suhas Patil Successfully completed ISO Internal Auditor Training on 13th November 2024 which as organized by We Build Pathways.
5. Dr. Sushant Waghmare, Mr. Mukesh Dhatunde, Mr. Kunal Pawar, Mr. Salman Shaikh Worked as an Polling Officer (PO) duty at 206- Maval Constituency on 19th to 20th November, 2024. (Maharashtra Vidhan Sabha Election-2024).
6. Dr Ashok More, Dr Ashwini Patil, Mr Sunil Paygaon, Dr Suhas Patil Successfully Qualified ISO Internal Auditor Training on 22nd November 2024 which as organized by We Build Pathways.



**WeBuild Pathways Pvt. Ltd.** WE BUILD PATHWAYS  
WORLD CLASS TRAINING & SKILLS

Result Sheet  
Date: 22<sup>nd</sup> November 2024  
Dr. D. Y. Patil College of Engineering, Akurdi, Pune  
Internal Auditors Training for Educators of Organizations Management System  
As per ISO 9001:2015:2015

Training Date: 13<sup>th</sup> and 14<sup>th</sup> November 2024  
Mode of Training: On-site Training  
Faculty: Mr. S. D. Purkhi

Sl. No.	Name of Participants	Remarks
01.	Dr. Madhuri Fokte	Qualified
02.	Dr. Vikas Maheshwar Shindekar	Qualified
03.	Mrs. Anshu Joshi	Qualified
04.	Dr. Yashraj M. Patil	Qualified
05.	Dr. Vinayak Dhanraj Kulkarni	Qualified
06.	Dr. Smita Pataskar	Qualified
07.	Dr. Bhagyashree Ashok Ingole	Qualified
08.	Dr. Ashwini Rajendra Patil	Qualified
09.	Dr. Sunil Vijay Patil	Qualified
10.	Mrs. Swati B. Chavhan	Qualified
11.	Dr. Chitra Kulkarni	Qualified
12.	Mrs. Nandini Sankar Joshi	Qualified
13.	Mrs. Nandini Anandkumar Jagtap	Qualified
14.	Mrs. Vandana S. Kulkarni	Qualified
15.	Dr. Mohit D. Joshi	Qualified
16.	Dr. Ashok Baburajendra More	Qualified
17.	Mrs. Anurag Sankar Joshi	Qualified
18.	Dr. Parag A. Deshpande	Qualified
19.	Dr. Anam Maheshwar More	Qualified
20.	Dr. Bhagyashree Bhagyashree Mahapatra	Qualified
21.	Dr. Pravin E. Bhatnagar	Qualified
22.	Dr. Suresh Chavan	Qualified
23.	Dr. Pratik Patil	Qualified
24.	Dr. Anil Kulkarni	Qualified
25.	Dr. Lata S. Joshi	Qualified
26.	Mrs. Prashant Narayan Shindekar	Qualified

Heartly congratulations for all successful participants  
Main Signature:  
For WeBuild Pathways Pvt. Ltd.  
S. D. Purkhi  
Faculty

We is a computer generated document, hence signature is not needed.  
Dr. Sunil Patil, Director (Academy), WeBuild Pathways, Akurdi, Pune - 411004, Maharashtra - 411004  
Mobile: 98222 102100, 98222 103892  
E-mail: webuildpathways@webuildpathways.com, webuild@webuildpathways.com, webuild@webuildpathways.com  
C/o: WeBuild Pathways Pvt. Ltd., Akurdi, Pune - 411004  
WeBuild Pathways Pvt. Ltd., Akurdi, Pune - 411004  
WeBuild Pathways Pvt. Ltd., Akurdi, Pune - 411004

ISO Internal Auditor Training



PhD awarded felicitation by Principal

**Name of Faculty Coordinator :**

Ms Neha Bagdiya

**Dr A.B.More**

Head of Department

**NEWS LETTER NOVEMBER 2024**

**Faculty Participation / Achievements:**

- 7. Dr. Smita Pataskar Successfully completed NPTEL course on “Body Language- Key to Professional Success” with Elite grade.
- 8. Dr. Smita Pataskar Appointed for mock inspection of NAAC for MBA and MCA programmes.
- 9. Dr. Sudhanshu Pathak Appointed as a Reviewer at American Journal of Civil Engineering.
- 10. Mr. Rajvardhan Patil was 46th paper reviewer of Springer Nature 27 November 2024.



NPTEL Certificate



Site visit Conducted



ISO Internal Auditor Training



Invited as Resource Person.

**Name of Faculty Coordinator :**

Ms Neha Bagdiya

**Dr A.B.More**

Head of Department



**NEWS LETTER NOVEMBER 2024**

**Students Participation / Achievements:**

- 1.Prathamesh Vyavahare Got first position in Competition on “Learning through Failure” which is organized by Indian Plumbing Association.
- 2.Sharvari Chincholkar Participated in Solo Singing competition in Symbiosis skills and professional University which is organized Symbiosis skills and professional University.
- 3.Sharvari Chincholkar Participated in Band War competition in Symbiosis skills and professional University which is organized Symbiosis skills and professional University.
- 4.Khushbu Sawant Placed as Associate project Engineer in V construct company.



Got first position in Competition on “Learning through Failure”



**Name of Faculty Coordinator :**

Ms Neha Bagdiya

**Dr A.B.More**  
Head of Department

**Faculty Achievements/ Participation :**

1. Dr. Kalyan Bamane and Ms. Supriya Sathe successfully completed the course on “Introduction to Open GPT Models ” organized by Infosys.
2. Dr. Kalyan Bamane successfully completed the course on “Introduction to Open GPT Models ” , Prompt Engineering, Landscape Generative AI organized by Infosys Springboard .



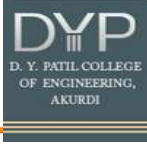
**Faculty Achievements/ Participation**

**Name of Faculty Coordinator :**

Ms. Supriya Sathe

**Dr Mrs. M. A. Potey**

Head of Department



**NEWS LETTER - NOVEMBER 2024**

**Faculty Achievements/ Participation :**

3.Ms.Vaishali Kolhe has successfully completed the 12 weeks course “Deep Learning” organized by NPTEL and received the certificate for the course .

4.3.Ms.Snehal Sarangi has successfully completed the 12 weeks course “Software Testing ” organized by NPTEL and received the certificate for the course .



**NPTEL ONLINE CERTIFICATION**  
(Funded by the MoE, Govt. of India)

This certificate is awarded to  
**VAISHALI KOLHE**  
for successfully completing the course  
**Deep Learning**  
with a consolidated score of **45** %

Online Assignments	10.38/25	Proctored Exam	34.5/75
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Total number of candidates certified in this course: **2762**

Prof. Andrew Thangaraj  
Chair  
Centre for Outreach and Digital Education, IITM

Jul-Oct 2024  
(12 week course)

Prof. Vignesh Muthuvijayan  
NPTEL Coordinator  
IIT Madras

Indian Institute of Technology Madras

Skill India  
कौशल भारत - कुशल भारत

swamam



**NPTEL-AICTE**  
**Faculty Development Programme**  
(Funded by the MoE, Govt. of India)

This certificate is awarded to  
**SNEHAL SARANGI**  
for successfully completing the course  
**Software Testing**  
with a consolidated score of **44** %

Indian Institute of Technology Madras

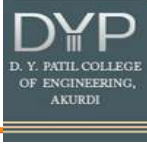
AICTE  
All India Council for Technical Education

Faculty Achievements/ Participation

**Name of Faculty Coordinator :**

Ms. Supriya Sathe

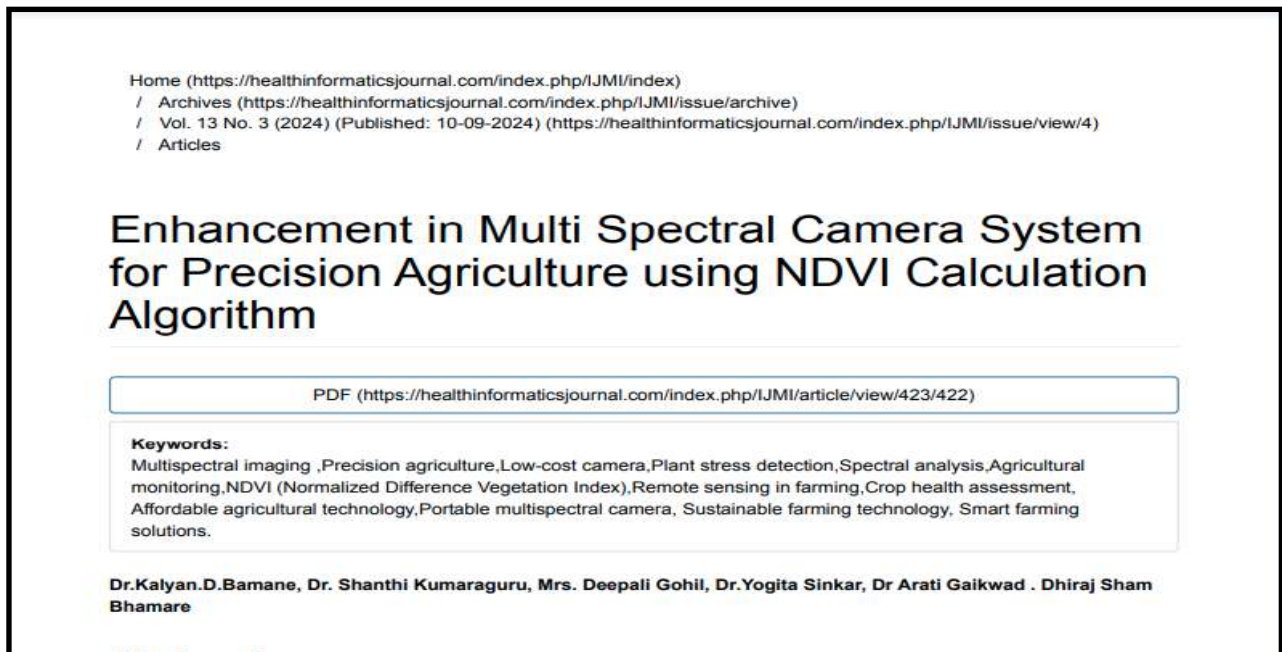
**Dr Mrs. M. A. Potey**  
Head of Department



**Faculty Achievements/ Participation :**

5.Ms.Depali Gohil has published paper entitled “Hybrid secure routing and monitoring mechanisms in IoT-based wireless sensor networks using Egret-Harris optimization” in taylor and francis journal by 04 Nov 2024.

6.Dr.Kalyan.D.Bamane, Dr. Shanthi Kumaraguru, Mrs. Deepali Gohil have published paper entitled “Enhancement in Multi Spectral Camera System for Precision Agriculture using NDVI Calculation Algorithm” in Frontiers in Health Informatics on Nov 2024.



Faculty Achievements/ Participation

Name of Faculty Coordinator :


Ms. Supriya Sathe

Dr Mrs. M. A. Potey  
Head of Department

**Faculty Achievements/ Participation :**

7.Ms.Tejas Tambe and Ms. Supriya Sathe published paper entitled “Block chain's role in Finance beyond Crypto currency” in the International Journal for Research in Applied Science and Engineering Technology (IJRASET) by Nov 2024.

8.Ms.Farina Sayyad published paper entitled “Efficient Data Management Strategies for NoSQL and Relational Databases in Cloud Environments: An In-Depth Analysis ” in International Journal For Multidisciplinary Research (IJFMR) by Nov 2024.



International Journal for Research in Applied Science & Engineering Technology (IJRASET)  
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538  
Volume 12 Issue XI Nov 2024- Available at www.ijraset.com

### Blockchain’s Role in Finance beyond Cryptocurrency

Ms. Tejas Bajirao Tambe, Ms. Supriya B Sathe  
Department of Computer Engineering, D.Y. Patil College Of Engineering Akurdi, Pune, Maharashtra, India

**Abstract:** The rapid emergence of blockchain technology outside of cryptocurrency in financial applications. Blockchain, mostly known as the underlying technology backing decentralized currencies such as Bitcoin, is today being tapped for a range of other financial services by its underlying features: decentralization, transparency, and security. The research explores blockchain's role in advancing transaction processing, auditability, and innovations such as decentralized finance and smart contracts that are changing traditional financial systems. The paper elaborates on how this technology benefits from efficiency relating to points of asset management, trade finance, and financing in the supply chain. It further goes into blockchain security and privacy challenges associated with these new technologies being adopted in areas such as these. This survey synthesizes recent insights to identify crucial opportunities and challenges for blockchains in the financial sector in bringing systemic change across global markets.

**Keywords:** Blockchain Technology, Decentralized Finance (DeFi), Financial Systems, Cross-border Payments, Blockchain Security, Blockchain Applications in Finance

**I. INTRODUCTION**

Since its inception in 2008 as the foundation of Bitcoin, blockchain technology has witnessed massive progress. What it began as, bitcoin, is no longer what it has evolved into: it is far from just digital currencies. Its fundamental benefits- decentralization, transparency, and security- influenced to change most of the sector's critical aspects about finance. For the last few years, blockchain has been incorporated into various financial applications that have dramatically changed how people see transactions, security, and trust in the virtual world. In essence, blockchain is a digital decentralised ledger which secures transactions in a transparent manner without necessarily requiring a central authority. Its first great application was Bitcoin, a



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E-ISSN: 2582-2160 • Website: www.ijfmr.com • Email: editor@ijfmr.com

### Efficient Data Management Strategies for NoSQL and Relational Databases in Cloud Environments: An In-Depth Analysis

Ms. Farhina Anjum Sayyad<sup>1</sup>, Ritama Maity<sup>2</sup>  
<sup>1,2</sup>Computer Engineering, Dr. D.Y. Patil College Of Engg, Akurdi Pune, India

**Abstract**

As data volumes grow exponentially, managing and storing this information efficiently becomes increasingly critical. NoSQL databases have emerged as a preferred solution for handling unstructured data, outperforming traditional relational database management systems (RDBMS) in scalability and flexibility. Techniques such as deduplication (removing duplicate data) and compression, combined with powerful tools like Hadoop and MongoDB, facilitate optimized storage and reduced network usage. However, the challenge of schema evolution in both NoSQL and SQL systems introduces risks of downtime and data inconsistency. This paper reviews current methods, highlights gaps in existing solutions, and proposes an integrated approach to ensure efficient data management across diverse database environments while minimizing downtime and enhancing data integrity.

**Keywords:** NoSQL Databases, Relational Databases, Data Management, Schema Evolution, Deduplication, Compression, Cloud Computing.

**INTRODUCTION**

In the modern digital era, data generation is expanding at an extraordinary pace. The explosion of big data, driven by social media, e-commerce, IoT devices, and other technologies, has fundamentally changed how organizations store, manage, and process information. Traditional Relational Database Management Systems (RDBMS), which have been the backbone of enterprise data management for decades, are struggling to meet the demands of handling massive, unstructured, and semi-structured

Faculty Achievements/ Participation

Name of Faculty Coordinator :

Ms. Supriya Sathe

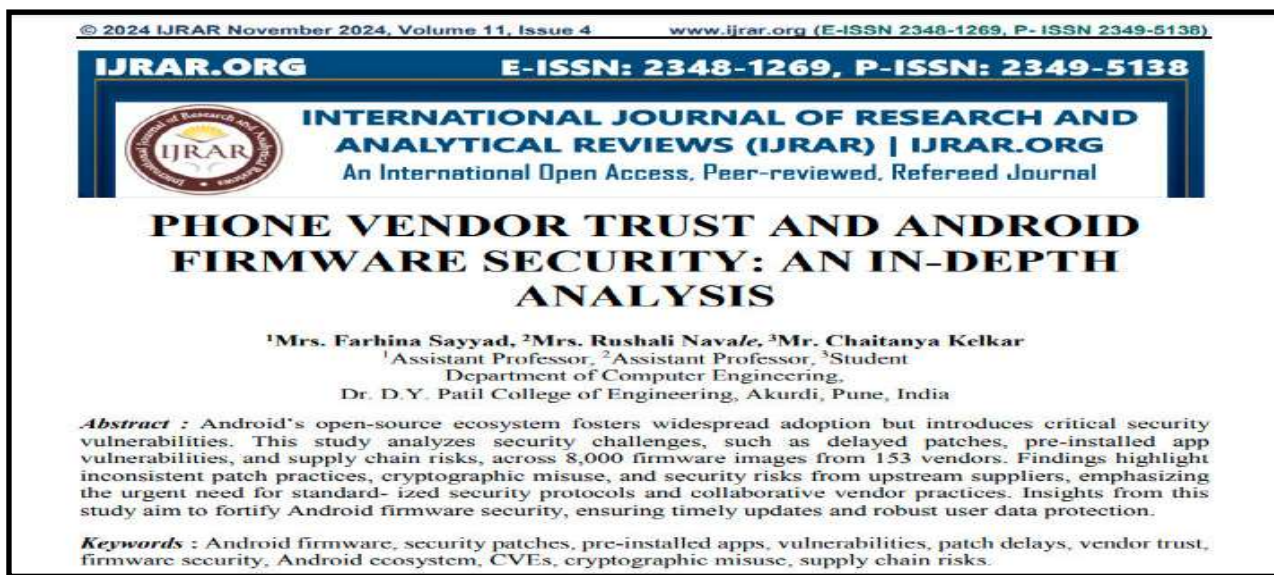
Dr Mrs. M. A. Potey  
Head of Department



**Faculty Achievements/ Participation :**

9.Ms.Farina Sayyad and Ms. Rushali Navale have published paper entitled “PHONE VENDOR TRUST AND ANDROID FIRMWARE SECURITY: AN IN-DEPTH ANALYSIS ” in the International Journal of Research and Analytical Reviews (IJRAR) by Nov 2024.

10.Mrs.Dhanshree Phalke successfully completed the course on “Stress Management at Workplace ”, organized by Infosys Springboard .



Faculty Achievements/ Participation

Name of Faculty Coordinator :

Ms. Supriya Sathe

Dr Mrs. M. A. Potey  
Head of Department

**Faculty Achievements/ Participation :**

11.Mrs.Dhanshree Phalke , Mrs. Yasmin Khan and Ms.Supriya Sathe have successful completion of Microsoft India & SAP India led Faculty Development Program on “Applied AI: Practical Implementations” under TechSaksham Program from “18th Nov 2024 - 22nd Nov 2024”.

12.Dr.Abhijit Patankar and Mrs. Namrata Soni has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on Recent Trends in VLSI Design Using Nanotechnology at MEERUT INSTITUTE OF ENGINEERING & TECHNOLOGY from 25/11/2024 to 30/11/2024.

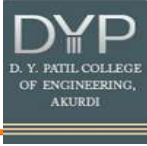


**Faculty Achievements/ Participation**

**Name of Faculty Coordinator :**

Ms. Supriya Sathe

**Dr Mrs. M. A. Potey**  
Head of Department



**Faculty Achievements/ Participation :**

13.Mrs.Dhanshree Phalke has attended the course on "How to manage research paper references with your Guide? (60 minutes)" at DYP Akurdi college, on Tuesday 26 November, 2024 Presented by Mendeley Advisor Dr Minakshi Pradeep Atre Mendeley Advisor.



Faculty Achievements/ Participation

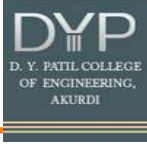
**Name of Faculty Coordinator :**

Ms. Supriya Sathe

**Dr Mrs. M. A. Potey**

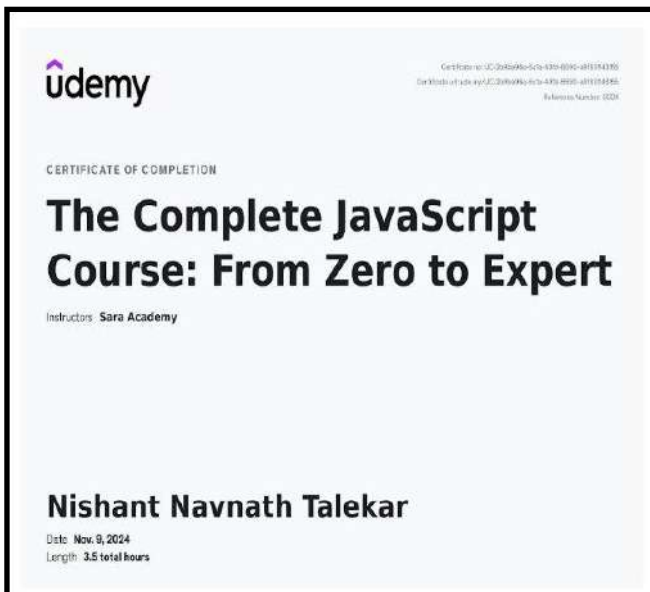
Head of Department





**Students' Achievements/ Participation :**

- 1.Ashutosh Kadu and Nishant N received certificate for successfully attending the Offline Workshops Exploring Generative AI: How ChatGPT Can Transform Your Study and Creativity in Pune by Geeks for Geeks.
- 2.Nishant Talekar has completed the UdeMy course “ The Complete JavaScript Course: From Zero to Expert ” and received the certificate on 9th Nov 2024
- 3.Pranav Shepal, has successfully completed the Decode Data Science With Machine Learning Program on 23rd Nov 2024 conducted by PHYSICS WALLAH.



Students' Achievements/ Participation

Name of Faculty Coordinator :

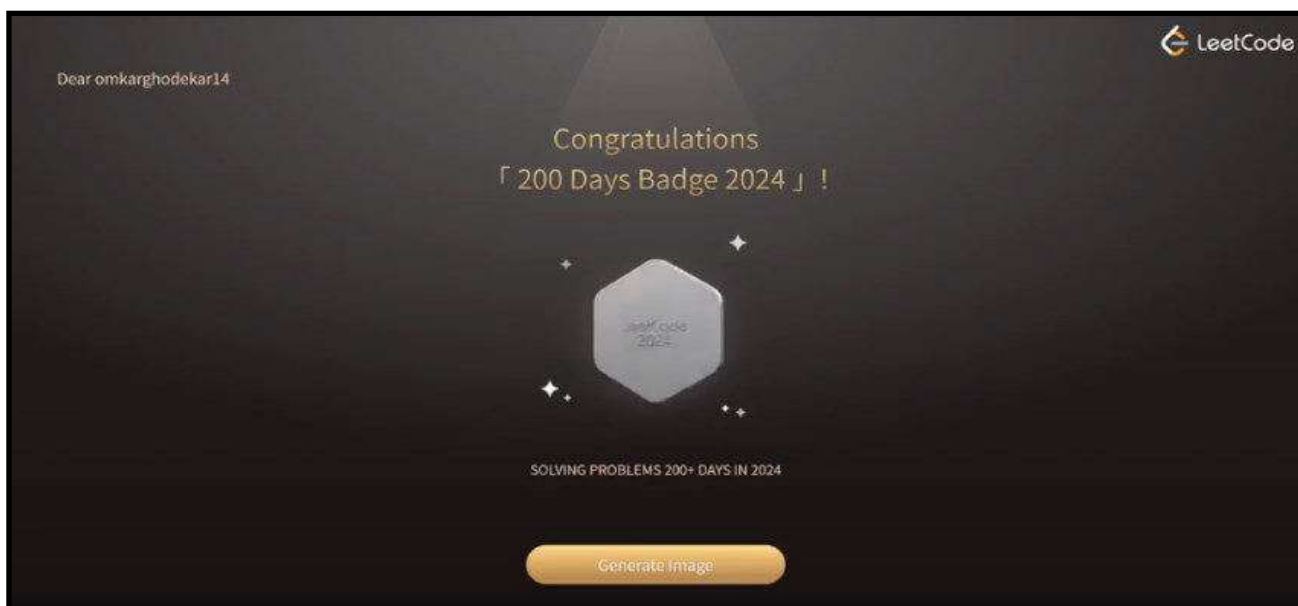
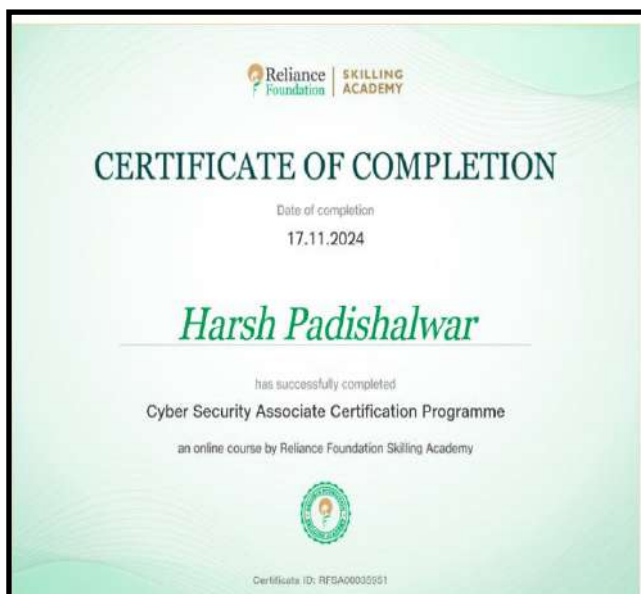
Ms. Supriya Sathe

**Dr Mrs. M. A. Potey**  
Head of Department



**Students' Achievements/ Participation :**

- 4.Harsh Padishalwar has successfully completed Cyber Security Associate Certification Programme an online course by Reliance Foundation Skilling Academy.
- 5.Abhishek Ambekar has completed course “Database and SQL for Data science with Python ” organized by IBM on 15th Nov 2024.
- 6.Omkar Ghodekar participated in “200 Active Days Task Challenge” organized by LeetCode .



Students' Achievements/ Participation

Name of Faculty Coordinator :

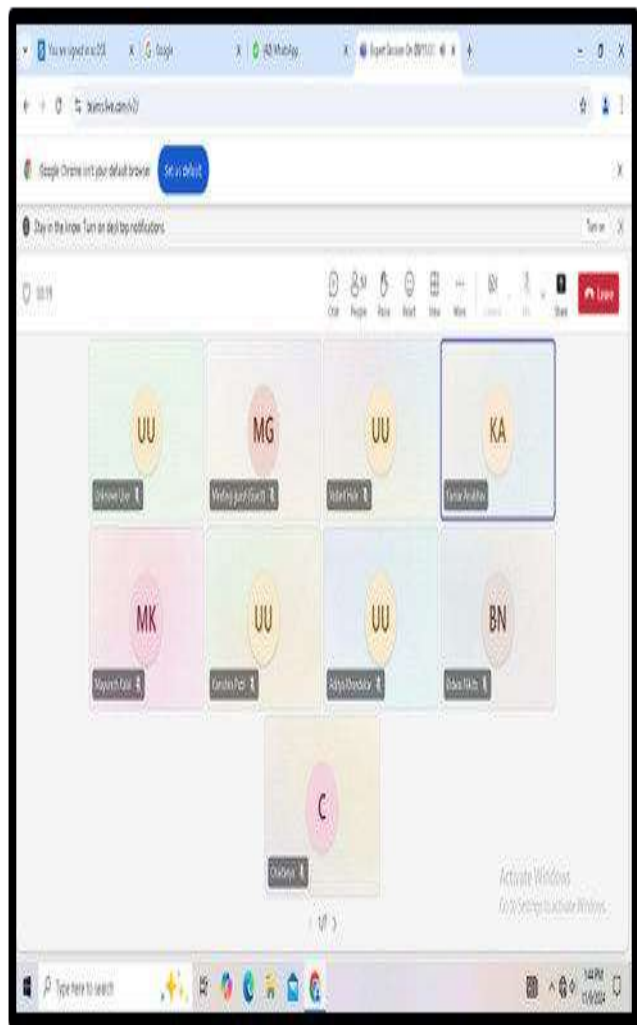
Ms. Supriya Sathe

**Dr Mrs. M. A. Potey**  
Head of Department

**Department Activities:**

1.Expert Session on "Fundamentals of Data Structure" for SE Students on 9thNovember 2024 at 10.30am to 12.30 pm in Online mode in association with ACES and Computer Society of India(CSI). For this expert session the resource person was Mr. Anubhav Kumar, M Tech, IIT Patana, Samsung Research Bangalore.

2.Expert Session on "Fundamentals of Data Structure" for SE Students on 9thNovember 2024 at 01.00pm to 2.30 pm in Online mode in association with ACES and Computer Society of India(CSI). For this expert session the resource person was Mr. Anubhav Kumar, M Tech, IIT Patana, Samsung Re-



Department Activities:

Name of Faculty Coordinator :

Ms. Supriya Sathe

**Dr Mrs. M. A. Potey**

Head of Department

**Faculty Achievements/Participations:**

1. Dr. Rutuja Deshmukh and Mrs Jaya Wakode published a paper on “Sustainability analysis of social interactions achieved by collaborative learning resulted from NPTEL SWAYAM Mentor Scheme ” in ICTIEE.
2. Dr Prashant Titare published a copyright on “Design a working Model of a paper cutting machine for cutting papers in order to be used as wrapping sanitary pads” with registration number L-156656/2024 date 11/11/24.
3. Mrs. Usha Jadhav, Mrs. Trupti Wagh, Mrs. Vishwalata Bagal, Mrs Manisha Rajput, Mrs Vasanti Vedpathak completed a NPTEL certified course on “Stress Management”. Mrs Usha Jadhav and Mrs Trupti Wagh completed with ELITE percentage.
4. Mrs. Jaya Wakode NPTEL certified course on “Management Information Systems ” with ELITE percentage.



Name of Faculty Coordinator :

Dipalie Pujari

Dr. Rutuja Deshmukh  
Head of the Department

**NEWS LETTER - NOVEMBER 2024**

**Department Activities:**

1.The department of E&TC organized a FDP on Innovation and Transformation in Pedagogy for the faculties on 7th and 8th November .



**Name of Faculty Coordinator :**

Dipalie Pujari

**Dr. Rutuja Deshmukh**  
Head of the Department

**NEWS LETTER - NOVEMBER 2024**

**Students Achievements:**

1. Siddhi Khokarale and Vedant Bhamare completed a NPTEL course on “Management Information Systems” with ELITE percentage.
2. Anushka Ambure published a copyright on Design a working Model of a paper cutting machine for cutting papers in order to be used as wrapping sanitary pads” with registration number L-156656/2024 date 11/11/24.
3. Diksha Dhananjay Tapkire completed six months professional course on Php language with outstanding performance with VJTech Academy.
4. Anushka Deshmukh has successfully completed the HP LIFE online course Business Communications.
5. Sanika Rajesh Ambildhuke secured- 2nd (silver medal) at Inter-Collegiate Boxing ( organized by Savitribai Phule Pune University) Competition 2024-25 Weight category - 48-50 Kg .

The collage features four distinct certificates:

- NPTEL Online Certification (Elite):** Awarded to Siddhi Suhas Khokarale and Vedant Gorakh Bhamare for completing the Management Information System course with a consolidated score of 73%. Issued by Prof. Haimanti Banerji, NPTEL, IIT Kharagpur.
- Copyright Certificate:** Issued by the Copyright Office, Government of India, for Anushka Ambure's work on a paper cutting machine model, registered on 11/11/2024.
- Certificate of Completion:** Issued by VJTech Academy for Diksha Dhananjay Tapkire for completing a 6-month professional course in PHP Language.
- Certificate of Merit:** Awarded to Sanika Rajesh Ambildhuke for securing 2nd place in the Inter-Collegiate Boxing tournament at Savitribai Phule Pune University.

**Name of Faculty Coordinator :**

Dipalje Pujari

**Dr. Rutuja Deshmukh**  
Head of the Department

**Faculty Achievements/Participations :**

1. Dr Arati Jadhav Patil have successfully presented the paper entitled “Implementation of Smart and Selective Gas Sensor System Empowered using ML over IOT platform” on November 2024
2. Dr. Arati Jadhav Patil have successfully presented the paper entitled “Enhancement in Multi Spectral Camera system for Precision Agriculture using NDVI Calculation Algorithm” on November 2024
3. Mrs Nilophar Mulani have successfully presented the paper entitled “Human Centric Design for wearable Technology: Bridging Aesthetic and Functional Aspects in Smart devices.” on November 2024
4. Mr Hiranman Jadhav have successfully presented the paper entitled “Human in Loop Machine Learning: A Paradigm Shift” on November 2024

**Mulani<sup>1</sup>, Sunil Appasa Kumbhar<sup>2</sup>, Ravindra Suresh Kamble<sup>3</sup>**

<sup>1</sup>Department of Artificial Intelligence and Data Science, D.Y. Patil College of Engineering, Akurdi, Pune, India.  
<sup>2</sup>Department of Computer Science and Engineering, MIT School of Computing, MIT Art Design and Technology University, Loni Kalbhori, Pune, India.  
<sup>3</sup>Department of Information Technology, SHES Graduate School of Technology, Neral, Navi Mumbai, India.  
<sup>4</sup>Department of Information Technology, D.Y. Patil College of Engineering, Akurdi, Pune, India.

<sup>5</sup>Department of Computer Science and Engineering, School of Engineering and Technology, D.Y. Patil Agriculture and Technical University, Talasari, Kulkarni, India.  
 mulaniravindra3@gmail.com<sup>1</sup>, bhargavdny@pooeakurdi.ac.in<sup>2</sup>, ravindrakamble3@gmail.com<sup>3</sup>, srinivasidny@pooeakurdi.ac.in<sup>4</sup>, sunilkumbhar05@gmail.com<sup>5</sup>, ravinkamble3@gmail.com<sup>6</sup>

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**Article History:**  
 Received: 09/09/2024  
 Revised: 28/10/2024  
 Accepted: 07/11/2024

**Abstract:**  
 The paper proposes a human-centric approach to wearable technology, emphasizing the integration of both aesthetic and functional elements to enhance user experience. The methodology involves analyzing user feedback and behavior to identify key needs and design challenges, which will inform the iterative development of wearable devices. Prototyping tools will be used to create interactive models that facilitate user testing and refinement prior to final deployment. The proposed system architecture includes advanced sensor modules, AI algorithms for personalized recommendations, and ergonomic design principles to ensure comfort and usability. A continuous improvement loop, driven by user feedback, will guide the refinement of both hardware and software components, ensuring the device meets evolving user expectations. Additionally, the study will explore the balance between aesthetics and functionality, using case studies of successful wearables to illustrate best practices. This approach aims to create devices that are not only technically proficient but also deeply aligned with user preferences and needs, ultimately promoting greater adoption and sustained engagement.

**Keywords:** Human-Centric Design, Wearable Technology, User Experience, Aesthetic and Functional Integration, Prototyping and Iterative Development, Continuous Improvement Loop

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**1. Introduction**  
 1.1. Background of Wearable Technology

**Human in Loop Machine Learning: A Paradigm Shift**

**Varsha Rahul Dange<sup>1</sup>, Hiranman Sheshrao Jadhav<sup>2</sup>, Nikita Kulkarni<sup>3</sup>, Pankaj Chandre<sup>4</sup>, Bhagyashree Shendkar<sup>5</sup>, Parikshit Mahalle<sup>6</sup>**

<sup>1</sup>Department of Information Technology, Vishwakarma Institute of Technology, Bibhewadi, India  
<sup>2</sup>Department of Information Technology, D.Y. Patil College of Engineering, Pune, India  
<sup>3</sup>Department of Computer Engineering, K. J. Somaiya Institute of Engineering and Management Research, Pune, India  
<sup>4</sup>Department of Computer Science & Engineering, MIT School of Computing, MIT Art Design and Technology University, Loni Kalbhori, India  
<sup>5</sup>Department of Computer Engineering, Vishwakarma Institute of Technology, Bibhewadi, India  
 dangevarsha@gmail.com<sup>1</sup>, hajathav@dyppooeakurdi.ac.in<sup>2</sup>, nikitakulkarni@vkit.edu.in<sup>3</sup>, pankajchandre30@gmail.com<sup>4</sup>, bhagyashree.shendkar@mituniversity.edu.in<sup>5</sup>, rahorgkar.pankaj@gmail.com<sup>6</sup>

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**Article History:**  
 Received: 29/08/2024  
 Revised: 01/10/2024  
 Accepted: 18/10/2024

**Abstract:**  
 This paper explores the transformative concept of Human-in-Loop (HIL) Machine Learning, which integrates human expertise into the machine learning process to enhance data quality, model accuracy, and ethical decision-making. Human interaction is added to traditional machine learning steps such as data collection, preprocessing, model training, evaluation, and deployment through continuous feedback loops, data annotation, and model change. This integration makes use of human intuition and experience to enhance algorithm performance and model interpretability, hence mitigating the drawbacks of entirely automated approaches. HIL Machine Learning allows AI systems to adapt to changing obstacles and makes more accurate forecasts by promoting human-machine interaction. This study emphasizes HIL Machine Learning as a reliable method for successfully handling dynamic, complexized problems across a range of areas.

**Keywords:** Human-in-Loop Machine Learning, Data Annotation, Model Adjustment, Feedback Loop, Machine Learning Paradigm, Ethical Decision-making

---

**1. Introduction**  
 1.1. Introduction to Human-in-Loop Machine Learning  
 1.1.1 Definition and Concept of Human in Loop (HIL) Machine Learning: A method known as "human-in-loop" (HIL) machine learning incorporates human judgment and knowledge into the process at different points[1]. In contrast to standard machine learning, which processes data and

**Dr Arati Galkwad<sup>1</sup>, Dhiraj Sham Bhamare<sup>2</sup>**

<sup>1</sup>Associate Professor, Department of Computer Engineering, D.Y. Patil College Of Engineering, Akurdi, Pune, India.  
<sup>2</sup>Assistant Professor, Department of Computer Engineering, D.Y. Patil College Of Engineering, Akurdi, Pune, India  
<sup>3</sup>Assistant Professor, Department of Computer Engineering, D.Y. Patil College Of Engineering, Akurdi, Pune, India  
<sup>4</sup>Associate Professor, Department of Computer Engineering, SVPM College Of Engineering, Midgaon, India  
<sup>5</sup>Assistant Professor, Department of Information Technology, D.Y. Patil College Of Engineering, Akurdi, Pune, India  
<sup>6</sup>Student of 3<sup>rd</sup> year Computer Engineering, D.Y. Patil College of Engineering, Akurdi, Pune, India  
 galkwad@dyppooeakurdi.ac.in, shamaryad@dyppooeakurdi.ac.in, dringohal@dyppooeakurdi.ac.in, gshamkar18@gmail.com, aragalkwad@dyppooeakurdi.ac.in, dhirajbhamare2005@gmail.com

Cite this paper as: Kalyan D Bhamare, Dhiraj Sham Bhamare, Deepali Chhal, Yogita Shikar Arati Galkwad, Dhiraj Sham Bhamare (2024) Enhancement in Multi Spectral Camera Systems for Precision Agriculture using NDVI Calculation Algorithm. *Frontiers in Health Informatics*, 13 (3), 4728-4741

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**Abstract**  
 Precision agriculture improves productivity, resources optimization, and sustainability in crops. However, despite having an elevated cost for commercial multispectral imaging systems, the current application of precision agriculture technologies in crop health monitoring has not been adopted by small and medium-sized farmers. Thus, this paper presents the design, development, and validation of an ingeniously designed low-cost multispectral camera system that is affordable to use as an alternative in crop health monitoring. With the current system use of readily available off-the-shelf components will be employed as a Raspberry Pi microcontroller and low-cost camera modules with an optical filter to capture in key bands of the spectrum such as Red, Green, Blue, and Near-Infrared. Calculations of vegetation indices, such as NDVI, will be made, offering real-time information relating to the health of the plants, water stress, and nutrient deficiencies. The system is highly accessible to users who are not nearly as technically oriented, farmers, for example. Field tests indicate that the system's spectral accuracy matches commercial ones, but at a fraction of the cost and therefore accessible to the smallholder. Consequently, it will improve crop yields, reduce wastage of resources, and promote sustainable farming practices, through farmer decision-making based on data. This paper discusses the

**Dr. Kalyan D. Bhamare<sup>1</sup>, Dr. Dipalke Chaudhrai, Mrs. Vaishali Kolhe<sup>2</sup>, Mrs. Dhanashree Phalke<sup>3</sup>, Dr. Arati Galkwad<sup>4</sup>, Mrs. Abhishta M. Pal<sup>5</sup>**

<sup>1</sup>Associate Professor, Department of Computer Engineering, D.Y. Patil College of Engineering, Akurdi, Pune, India.  
<sup>2</sup>Assistant Professor, Department of Computer Engineering, D.Y. Patil College of Engineering, Akurdi, Pune, India.  
<sup>3</sup>Assistant Professor, Department of Computer Engineering, D.Y. Patil College of Engineering, Akurdi, Pune, India.  
<sup>4</sup>Assistant Professor, Department of Information Technology, D.Y. Patil College of Engineering, Akurdi, Pune, India.  
<sup>5</sup>Assistant Professor, Department of Information Technology, D.Y. Patil College of Engineering, Akurdi, Pune, India  
 kalyanbhamare@dyppooeakurdi.ac.in and ashleshpalke47@gmail.com

Cite this paper as: Kalyan D Bhamare, Dipalke Chaudhrai, Vaishali Kolhe, Dhanashree Phalke, Arati Galkwad, Abhishta M Pal (2024) Implementation of Smart and Selective Gas Sensor System Empowered using Machine Learning over IoT Platform. *Frontiers in Health Informatics*, 13 (3),4712-4727

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**ABSTRACT**  
 With the help of an internal sensor composed of hollow spheres of tin oxide coated in platinum, this stand-alone, selective gas sensor system offers wireless monitoring and internet connectivity. At different concentrations, it reliably detects volatile organic compounds (VOCs). Real-time VOC identification is made possible using a machine learning model that has a 95-93% accuracy rate and a quick predictor's speed of 210 ms. A low-power microcontroller and Bluetooth are used to connect the system, and real-time data can be accessed via an Android app or webpage that leverages cloud services. The system is validated and tested, enabling remote, self-sufficient applications that progress the Internet of Things' gas sensing capabilities.

**Keywords:** GAS, IoT, Wi-Fi, ARM and Temperature.

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**1. INTRODUCTION**  
 The introduction of the paper "Smart and Selective Gas Sensor System Empowered With Machine Learning Over IoT Platform" discusses the necessity for automated, real-time, and selective gas sensors in various industries like food safety, industrial safety, and air quality monitoring. Such sensors are required to be employed for a safe environment and to differentiate between VOCs. This paper focuses on the fact that designing smart systems requires interfacing gas sensors with wireless communication, cloud storage, and real-time monitoring through Internet of Things. However, the gas sensor technologies available today have selectivity, size, and durability issues. To enhance the VOC-detection selectivity of this study, machine learning techniques are merged with metal-oxide-based

“Paper Publication”

“Paper Publication”

**Name of Faculty Coordinator :**

**Mr Hiranman Jadhav**

**Dr Preeti Patil**

**Head of Department**

**NEWS LETTER - NOVEMBER 2024**

**Faculty Achievements/Participations :**

5. Mrs Amita Jajoo have successfully presented the paper entitled “Securing Trust in E-commerce: A Blockchain Approach to Product Authenticity” on November 2024
6. Mrs Amita Jajoo have successfully presented the paper entitled “Nearby Stall Navigator Application Using Flutter, Firebase and Augmented Reality” on November 2024
7. Mrs Himani Patel have successfully presented the paper entitled “Machine Learning models for Early Detection of Hepatic Disorders using clinical Data” on November 2024
8. Dr Latika Desai have successfully presented the paper entitled “AI Enabled Diagnostics solution for Eye Disease Detection and treatment Planning.” on November 2024
9. Dr Preeti Patil have submitted a research proposal on the ICSSR portal worth 30 Lakhs on 10th Nov 2024.
10. Dr Preeti Patil has Department Chairman for Campus Branding Cell, IT DYPCOE Pune In recognition of your contribution as an editorial board member to the journal “ International Journal of Trends in Emerging Research and Development” on November 2024.



Apply under	Major	
Broad Research Domain	Education	
Priority Area	Skilling Youth for Future Jobs	
Title of the Research Proposal	An Analytical Framework for Empowering Youth for Future Job Markets Using Machine Learning	
<b>I. Personal Information of the Project Director (PD)</b>		
1. Name of the Applicant (as mentioned in the official records of your institution)	Preeti Suryakant Patil	
2. Address for Official communication :	D. Y. Patil College of Engineering, D. Y. Patil Educational Complex, Sector 29, Nigdi Pradhikaran, Akurdi, Pune, 411044. D. Y. Patil College of Engineering, Akurdi, Pune 9276555582 ppatil@dypecoed.ac.in Akurdi 411044	
3. Permanent Address :	Same as Communication Address	
4. Date of Birth (DD/MM/YYYY) :	14/12/1977	
5(a). Mother's Name :	Uma H Ghorpade	
5(b). Father's Name :	Hannurath Rao Ghorpade	
6. Employer Details :	Designation: Associate Professor Employment status: Permanent Name: D. Y. PATIL COLLEGE OF ENGINEERING, AKURDI, PUNE Address: D. Y. Patil College of Engineering, D. Y. Patil Educational Complex, Sector 29, Nigdi Pradhikaran, Akurdi, Pune, 411044.	



**Name of Faculty Coordinator :**

**Mr Hiranjan Jadhav**

**Dr Preeti Patil**  
Head of Department



**NEWS LETTER - NOVEMBER 2024**

**Faculty Achievements/Participations :**

11. Mrs Suvarna Sonone has participated and successfully completed AICTE Training and Learning ATAL Academy The Revolution of Large Language Models (LLMs) in Artificial Intelligence at VIDYA JYOTHI INSTITUTE OF TECHNOLOGY organized by Vidya Jyoti Institute of Technology DYPCOE Pune from 18/11/2024 to 23/11/2024
12. Arati Shivaji Jadhav Patil . Introduction to OpenAI GPT Models The certificate is awarded for successfully completing the course on November 20, 2024
13. Arati Shivaji Jadhav Patil . OpenAI Generative Pre-trained Transformer 3 (GPT-3) for developers The certificate is awarded for successfully completing the course on November 23, 2024
14. Arati Shivaji Jadhav Patil . Generative AI Landscape The certificate is awarded for successfully completing the course on November 18, 2024



“FDP & Training Certificates”

**Name of Faculty Coordinator :**

Mr Hiranman Jadhav

**Dr Preeti Patil**  
Head of Department

**NEWS LETTER - NOVEMBER 2024**

**Faculty Achievements/Participations :**

- 14. Arati Shivaji Jadhav Patil for successfully completing the course AI-first Software Engineering on November 21, 2024
- 15. Arati Shivaji Jadhav Patil for successfully completing the course AI-first Software Engineering on November 21, 2024
- 16. Krutika Bang, Mrs Dipali Patil successfully completed and received a passing grade in Deep Learning Fundamentals on 25 November 2024
- 17. Dipali Patil, Mrs Krutika Bang successfully completed and received a passing grade in Prompt Engineering for Everyone on 19 November 2024.



“FDP & Technical Course Certificates”

**Name of Faculty Coordinator :**

Mr Hiranman Jadhav

**Dr Preeti Patil**  
Head of Department



**NEWS LETTER - NOVEMBER 2024**

**Faculty Achievements/Participations :**

- 18.Mrs Krutika Bang for participating in the training program on the Data Science with Python conducted by talentNext From 11th Nov to 29th Nov 2024.
- 19 .Mrs Krutika Bang for participating in the training program on the Dot Net Full Stack conducted by talentNext From 11th Nov to 29th Nov 2024.
- 20.Dr Latika Deshai has book Published on IoT Fundamentals and Advance Applications on November 2024.



**Book details**

ISBN-13	Publication date
	
<b>979-8343562231</b>	<b>October 19, 2024</b>

“FDP & Technical Course Certificates”

**Name of Faculty Coordinator :**

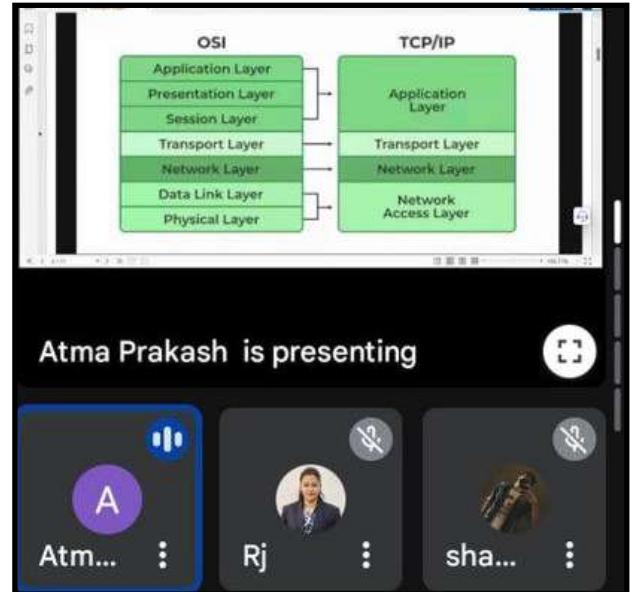
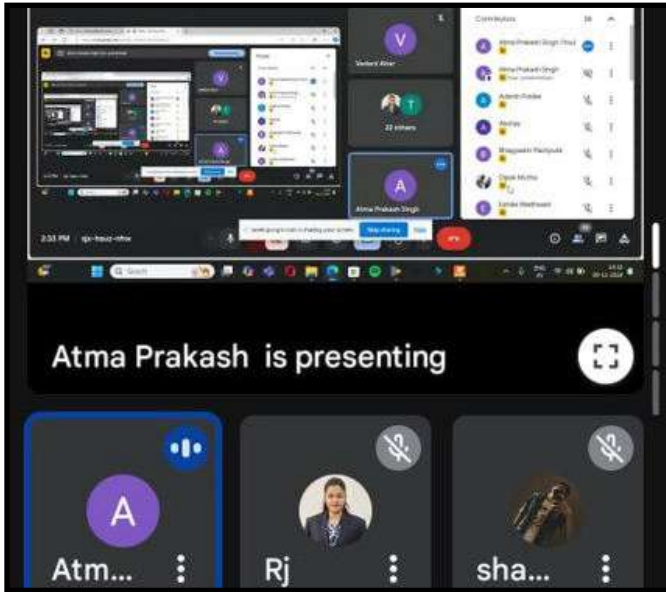
Mr Hiranman Jadhav

**Dr Preeti Patil**  
Head of Department

**NEWS LETTER - NOVEMBER 2024**

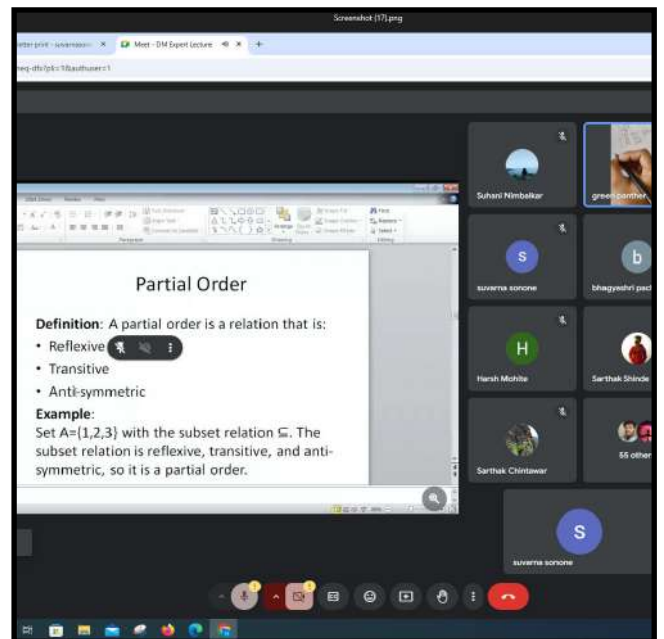
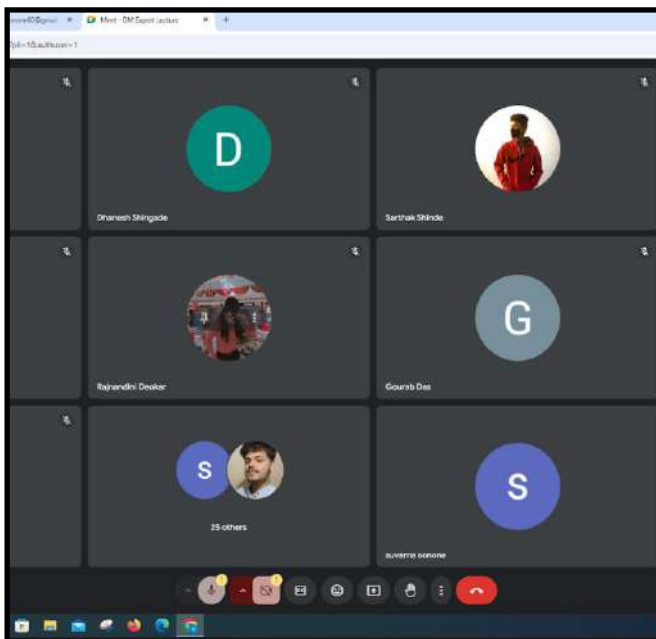
**Department Activity :**

1. Department of Information Technology Organized Expert session on Transport Layer Services and Protocol for the Subject Basic Computer Network on 9th Nov 2024.



“Poster Presentation Program”

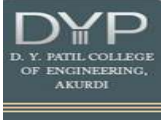
2. Department of Information Technology Organized Expert session on Function and Relation with Hash Diagram for the Subject Discrete Mathematics on 9th Nov 2024.



**Name of Faculty Coordinator :**

Mr Hiranman Jadhav

**Dr Preeti Patil**  
Head of Department



**NEWS LETTER - NOVEMBER 2024**

**Student Achievements/Participations :**

1. Ms Shravani Phalke has successfully completed the course on Exploring Generative AI Chat GPT on Nov 2024
2. Ms. Pratiksha Padwal for successfully attending the Offline Workshops Exploring Generative AI: How ChatGPT Can Transform Your Study and Creativity in Pune by GeeksforGeeks on Nov 2024.
3. Mr. Preeti Jain for successfully completing the course Programming in Java With consolidated score of 75% on Nov 2024.
4. Ms. Shravani Phalke has Successfully completed python Full Stack on 23rd Nov 2024.



“Student Achievements Certificates”

**Name of Faculty Coordinator :**

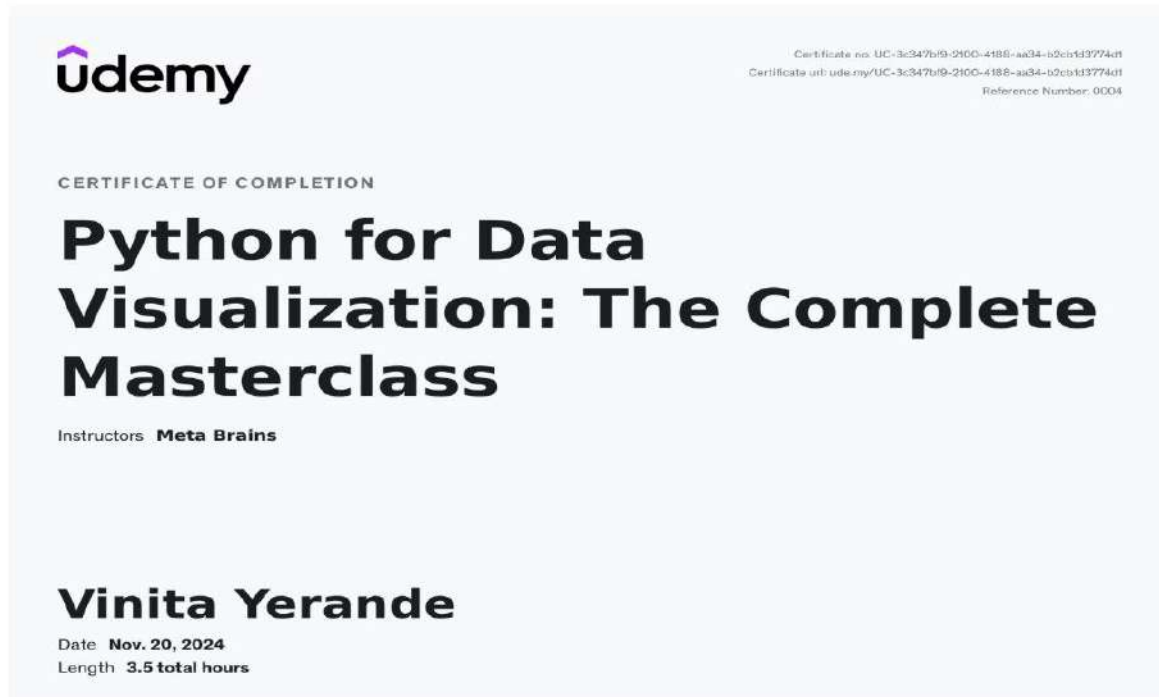
Mr Hiranjan Jadhav

**Dr Preeti Patil**  
Head of Department

## NEWS LETTER - OCTOBER 2024

### Faculty Achievements/Participations :

- ◆ Dr B. B. Musmade worked as reviewer for “IEEE PUNECON 2024” jointly organized by Defence Institute of Advanced Technology (DIAT) & IEEE Pune Section on 13th - 14th Dec 2024.
- ◆ Dr B. B. Musmade, Mr N. V. Mane and Dr Y. H. Patil attended “Internal Auditor Training for Educational Organizations Management System of ISO 21001:2018” on 13th -14th Nov 2024, received Certification for the same.
- ◆ Vinita Yerande has completed the Udey course on “ Python for data visualization :- the complete masterclass”.
- ◆ Dr. Yogesh H. Patil published a paper on “Enhancing Security in Smart Renewable Energy Grids Through Proxy Signcryption Approach,” Journal of Sensors, vol. 2024, Article ID 1603926, 16 pages, 2024. <https://doi.org/10.1155/js/1603926>.



Vinita Yerande Udemy Certificate

Name of Faculty Coordinator : Mrs. Arti Ajay Utikar

Dr B. B. Musmade

## NEWS LETTER - OCTOBER 2024

### Department Activities :

- ◆ The department has organized EDC Activity (Group discussion on various topics related to Entrepreneurship) for SE students on 18th November 2024. Total 52 students participated.



EDC Activity

Name of Faculty Coordinator : Mrs. Arti Ajay Utikar

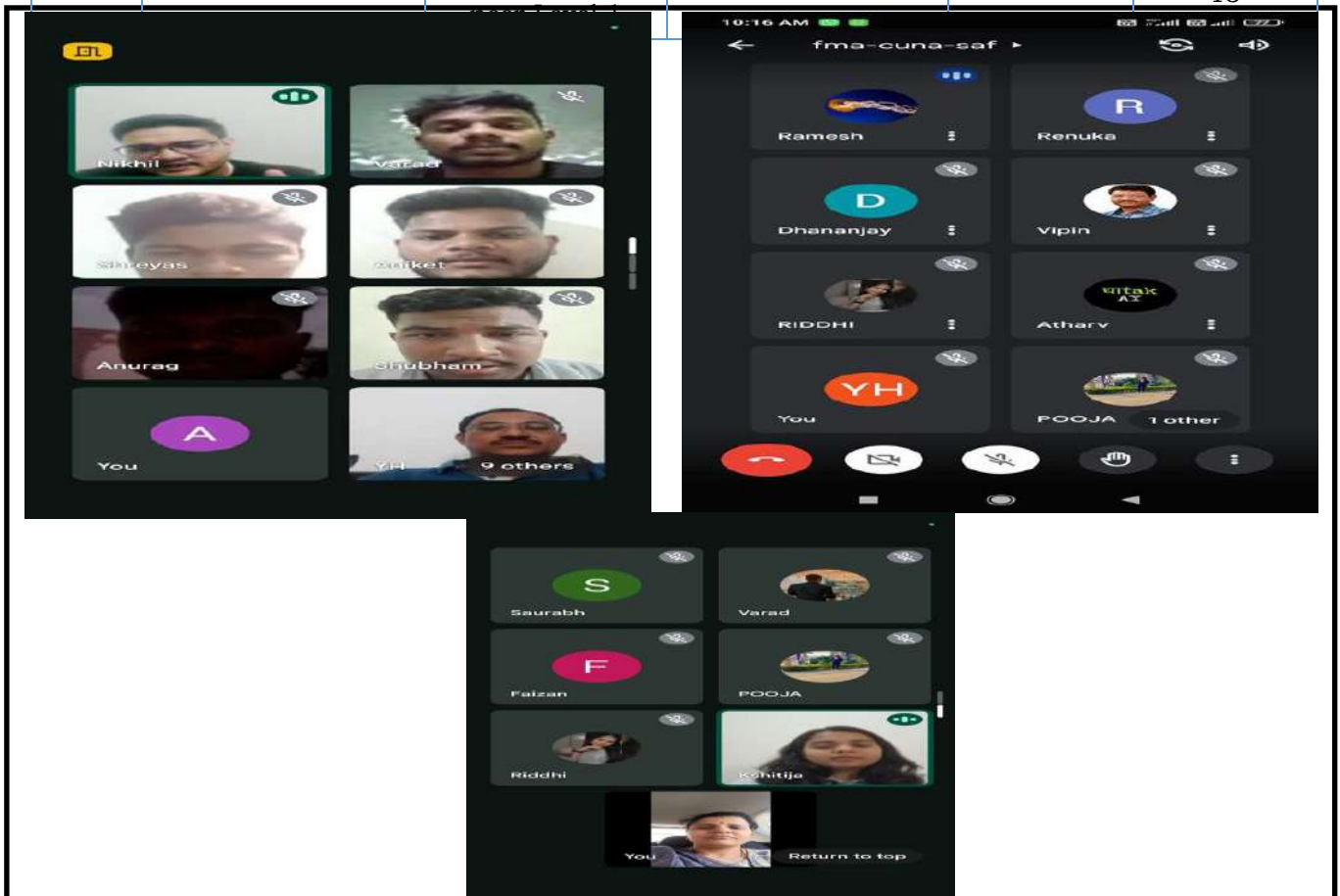
Dr B. B. Musmade

**NEWS LETTER - OCTOBER 2024**

**Department Activities :**

- Department has taken initiative to organize preplacement talk by alumni of particular company. Total 5 talks were conducted in November 2024, organized by Dr. Yogesh Patil, Mrs. Arti Utikar & Mr. Vipin Vibhute. The details are as below:

Sr. No.	Name of Alumni	Current Designation	Current Organization	Date	No. of students benefited
1	Mr. Nikhil sharma (2023 batch)	Trainee Engineer	Deepak Fertilizers, Pune	4/11/2024	20
2	Ms. Priyanka Thorat (2021 batch)	Trainee Engineer	Johnson Controls, Pune	10/11/2024	21
3	Mr. Amarjit Sapkal (2024 batch)	Trainee Engineer	Emerson, Pune	17/11/2024	15
4	Mr. Ramesh (2008 Batch)	Design Engineer	Honeywell, Pune	23/11/2024	21
5	Ms. Kshitija Hodade (2023 batch)	Instrumentation & Control Engi-	Worley Services Pvt Ltd.	30/11/2024	13



Pre placement Talks by Proud Alumni

**Name of Faculty Coordinator :** Mrs. Arti Ajay Utikar

**Dr B. B. Musmade**



**Faculty Achievements:**

- Dr. T. Dey filed a patent for “Flood Risk WARNING by Using Self-Activating Flood Barrier” on 9 Nov 2024.
- Dr. P.T. Nitnaware and Mrs. S.K. Dhamale has Successfully completed ISO Internal Auditor Training on 13th November 2024 conducted by We Build Pathways .
- Dr. P.T. Nitnaware was recognized as Outstanding Contribution as a Reviewer in the Journal of Thermal Engineering.
- Dr. T. Dey recognized as Outstanding Contribution as a Reviewer in Journal of Mines, Metals and Fuels



Patent “Flood Risk”



ISO Internal Auditor



Contribution as a Reviewer

**Name of Faculty Coordinator :**

Mrs. Monica P. Ugale

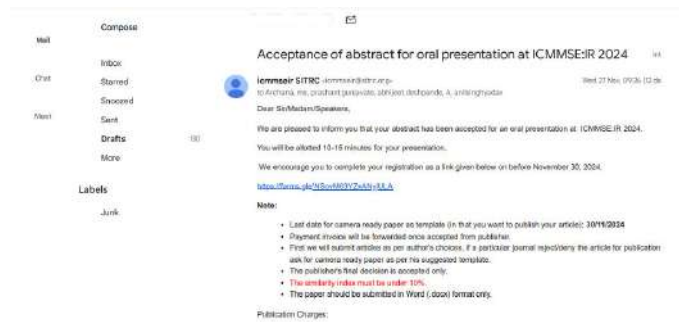
**Dr.P.T.Nitnaware**  
Head of Department

**Faculty Achievements:**

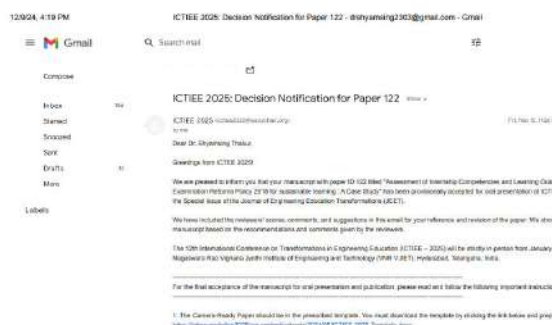
- Dr. V A Kulkarni published a paper, “Customized Measurable Availability Framework of Sewage Treatment Plant Through Risk Priority Number,” for MAPAN Journal of Metrology Society of India.
- Mrs Swati Jadhav published a paper, “Heat Transfer Enhancement in flow boiling of Refrigerant R407c using turbulent promoters: A review” in the 4th International E-conference on Mechanical and Material Science Engineering Education ICMMSE: IR 2024 .
- Dr. S V Thakur , Dr. P.T. Nitnaware submitted a paper entitled “Assessment of Internship Competencies and Learning Outcomes based on AICTE Examination Reforms Policy 2018 for Sustainable Learning: A case study” for the ICSI 2025 Conference .



published a paper for MAPAN Journal



published a paper in ICMMSE: IR 2024



published a paper in ICSI 2025 Conference

**Name of Faculty Coordinator :**

Mrs. Monica P. Ugale

**Dr.P.T.Nitnaware**  
Head of Department

**Faculty Achievements:**

- The following faculty submitted a proposal to Anusandhan National Research Foundation (ANRF) under a Grant (ANRF) Prime Minister Early Career Research Grant.
- Dr. Lalitrao Amrutsagar Proposal was submitted for “Comparative Analysis of Additive Manufacturing Techniques for Industrial Ceramics” on 18/11/2024. Project Budget proposed - Rs. 28,20,000.
- Dr. Dr. R.D. Sanshanshiv Proposal was submitted for “Proposal submitted for Testing of composite Material Properties of AL Alloy “ on 18/11/2024. Project Budget proposed - Rs. 14,34,000 .
- Dr. Vaibhav Rahij Proposal was submitted for “Testing of Material Properties of AL Alloy ” on 18/11/2024. Project Budget proposed 13,80,000 .
- Dr. S V Thakur Proposal was submitted for “Blomethanation Power Plant ” on 18/11/2024. Project Budget proposed 15,00,000/- .

**PROPOSAL DETAILS**

**Dr. RAHUL DILIP SANDHANSHIV**  
rahulsd01@gmail.com  
Assistant Professor(Mechanical Engineering)  
D Y Patil College of Engineering Akurdi, Pune  
Sector 29, nigdi pradhikaran, Pune, Maharashtra-411044

**Technical**

**Scheme :** Prime Minister Early Career Research Grant  
**Research Area :** Mechanical Engineering (Engineering Sciences)  
**Duration :** 36 Months **Contact No :** +919422080001  
**Date of Birth :** 29-May-1988 **Gender :** MALE  
**Category :** OBC **Is differently :** No  
**Nationality :** INDIAN **Total Cost :** 14,34,000

**Project Summary :**

For many years, carbon fibers (CF) have been employed as reinforcement. Metal matrix composites (MMC), polymer matrix composites (PMC), and ceramic matrix composites all use carbon fibers as reinforcement. Both ceramic matrix composites and metal matrix composites reinforced with carbon fiber have attracted a lot of interest. The mechanical and tribological characteristics of carbon fiber reinforced aluminum metal matrix composites will be compared to those of traditional aluminum alloys in this study. Because of their interesting features, carbon fibers can be used as reinforcement in a range of matrix materials. In several applications, carbon fiber reinforced polymer matrix composites have already started to supplant conventional materials. There is great potential for Carbon Fibre Reinforced Aluminum Metal Matrix Composites (CF-RMMC) to replace metals and alloys found in automobiles. The mechanical, tribological, and morphological properties of conventional materials are enhanced by CF-RMMC. CF-RMMC is resistant to wear and corrosion, and has a high modulus and strength. Composite structures are formed by carbon fibers with low research. Prior to being reinforced, carbon fibers need to be coated. One possible area of research is the selection of pertinent automotive applications that CF-RMMC can replace, leading to weight reduction and lower fuel use. Because of its desired qualities, simplicity of availability, and affordability, PAN-based carbon fiber rods will be employed for reinforcing in

**Dr. LALITRAO VIJAY AMRUTSAGAR**

lvamrutsagar@dypcoeakurdi.ac.in  
Assistant Professor(Mechanical Engineering)

D Y Patil College of Engineering Akurdi, Pune

Sector 29, nigdi pradhikaran, Pune, Maharashtra-411044

**Technical**

**Scheme :** Prime Minister Early Career Research Grant  
**Research Area :** Mechanical Engineering (Engineering Sciences)  
**Duration :** 36 Months **Contact No :** +919930070150  
**Date of Birth :** 22-Apr-1991 **Gender :** MALE  
**Category :** GEN **Is differently :** No  
**Nationality :** INDIAN **Total Cost :** 28,20,000

**Project Summary :**

Additive manufacturing has the potential to impact the ceramics industry by providing many new opportunities, such as greater design freedom, working and product grading, mold-free mold design, and lower prices, without expensive tools, thus reducing production costs and

**Dr. Vaibhav Chandrabhan Rahinj**

vaibhvacrahinj14@gmail.com

Assistant Professor(Mechanical Engineering)

D Y Patil College of Engineering Akurdi, Pune

Sector 29, nigdi pradhikaran, Pune, Maharashtra-411044

**Technical**

**Scheme :** Prime Minister Early Career Research Grant  
**Research Area :** Mechanical Engineering (Engineering Sciences)  
**Duration :** 36 Months **Contact No :** +918552899681  
**Date of Birth :** 01-Apr-1994 **Gender :** MALE  
**Category :** OBC **Is differently :** Yes  
**Nationality :** INDIAN **Total Cost :** 13,80,000

**Project Summary :**

In this project we will investigate different mechanical properties and microstructure of aluminum alloy A6061 using Friction Stir Welding (FSW) and Underwater Friction Stir Welding (UWFSW). We will prepare Different FSW and UWFSW sample and by employing different tool rotational speed, welding speed and tool tilt angle. We will compare the Tensile strength, Micro hardness, Surface roughness, % elongation of FSW and UWFSW sample. We will compare the results of Tensile strength, Micro hardness, Surface roughness, % elongation of FSW and UWFSW sample.

**Dr. SHYAMSING THAKUR**

drshyamsing2303@gmail.com

ASSISTANT PROFESSOR(MECHANICAL ENGINEERING)

D.Y. Patil College of Engineering

d. y. patil educational complex, sector 29, nigdi pradhikaran, akurdi, Pune, Maharashtra-411044

**Technical**

**Scheme :** Prime Minister Early Career Research Grant  
**Research Area :** Bio Chemistry and Bio-physical Chemistry (Chemical Sciences)  
**Duration :** 36 Months **Contact No :** +918788497561  
**Date of Birth :** 23-Mar-1991 **Gender :** MALE  
**Category :** GEN **Is differently :** No  
**Nationality :** INDIAN **Total Cost :** 59,63,000

**Project Summary :**

Design, Development and construction of Self sustainable non stationary dynamic Biomethanation Power plant. Design and Development of clean, affordable and regularly accessible energy sources for the whole campus. To do the characterisation and trace the sources of scum formation in hot weather regions and synthesis the genetic changes in bacteria for Anaerobic Biomethanation. Development of better waste management solutions to local urban/rural bodies like municipalities. Development of integrated thermal application to such Biomethanation plant To reduce the dependence on Current Energy sources which are vanishing very fast. Utilization of the waste of such plants as manure for gardening.

proposal to Anusandhan National Research Foundation (ANRF)

**Name of Faculty Coordinator :**

Mrs. Monica P. Ugale

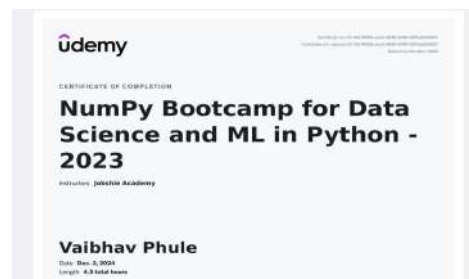
**Dr.P.T.Nitware**

Head of Department

**NEWS LETTER - NOVEMBER 2024**

**Faculty Achievements:**

- Mr. Vaibhav Phule completed a course from UdeMy Academy
  - 1 “Bootcamp for Data Science and Machine Learning ”on 2 December 2024.
  - 2 “Collaborative Artificial Intelligence” on December 2024
- Following faculty completed NPTEL Course
- Mrs. S.K.Dhamale, Mrs. B.P.Bhor, Mr. N.S. Hirulkar completed NPTEL course, “Stress Management”



Course Participation in NPTEL and UDEMY Academy

**Name of Faculty Coordinator :**

Mrs. Monica P. Ugale

**Dr.P.T.Nitware**  
Head of Department

### Faculty Achievements:

- Following faculty completed NPTEL Course
- Mrs. M.P.Ugale completed NPTEL course, “Computational Fluid Dynamics ”
- Mr. A.B. Battu completed NPTEL course, 1. The science of Happiness and Wellbeing 2. Developing Soft Skills and Personality



Course Participation Certificates in NPTEL

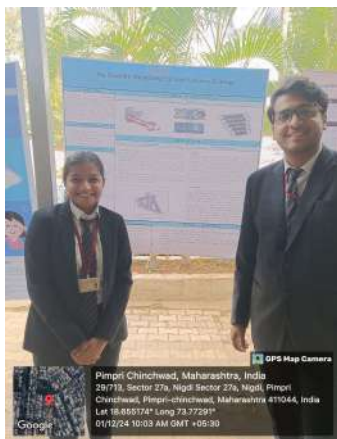
Name of Faculty Coordinator :

Mrs. Monica P. Ugale

Dr.P.T.Nitaware  
Head of Department

**Students Achievements:**

- From Mechanical Department Shvet Sangam, Nayan Kshirsagar, Sneha More, Janhavi Hengade, Aaditya Latkar, Preet Sambre, Vaishnavi Kumar, Anvesha Dhoke, Saisha Atre, Mohammad Ali participated in, "Technology Innovation Forum for Agricultural Nurturing on 10 October 2024".
- Following student are participated in Avishkar Project Competition
  - Mr. Kaushal Gandhi, Sayali Nikam, Gaurav Pandey, Varun Chaskar project entitled, "The Quickfit: Redefining car Jack Design & Dynamics"
  - Mr. Rushab Awhad, Lalit Betwal, Mohit Vedhane, Yash Khabale project entitled, "Development of Ecofriendly Filtration Technique and Water Treatment Solution during Indian Rituals"



Students participated in Avishkar Project Competition



Students participated in, "Technology Innovation Forum for Agricultural Nurturing".

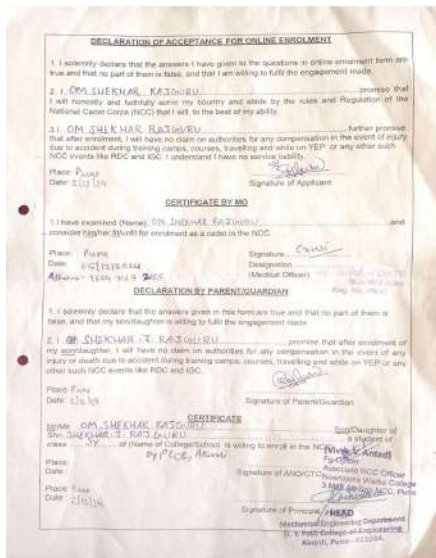
**Name of Faculty Coordinator :**

Mrs. Monica P. Ugale

**Dr.P.T.Nitnaware**  
Head of Department

**Students Achievements:**

- Om Shekhar Rajguru Selected as NCC Cadet from Pune Division.
- From Mechanical Department following students are SPPU TOPPER.
  1. Mr. Prathamesh S Lokhande
  2. Mr. Manish R Modak
- Mr. Aryan Surve represented a Startup Dronology Innovations pvt Ltd in "TARKSHAstra ASIAN PARLIAMENTARY DEBATE" competition as a Deputy Prime Minister to where the topic was "This House Supports the Regulation of Algorithms in AI-Driven Startups to Prevent Unethical Use of Data and Bias." and secured a winning position.



Selected as NCC Cadet from Pune Division.



represented a Startup Dronology Innovations

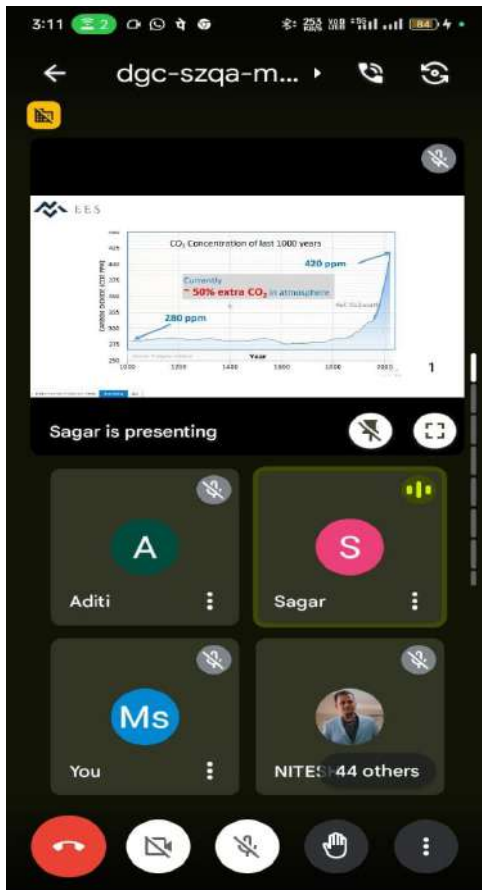
**Name of Faculty Coordinator :**

Mrs. Monica P. Ugale

**Dr.P.T.Nitware**  
Head of Department

**Department Activiies:**

- Mr. Nitesh Hirulkar, Mr. Manoj Lohate, Mr. Vinayak Bembrekar, Dr. P. T. Nitnaware organized expert lecture for TE Students on topic 'Sustainable Development', speaker is Mr. Sagar Wankhede from Development Engineer from Ecometric Engineering Solutions Pune, on Nov '24, 2024 at 2:00 pm- 3:00 pm .100 students attended the expert lecture.
- MESA organized a Event , “Fire Fighting Drill ” on 14th November 2024.Firefighting drills were conducted by guests Mr. Akshay Bhat and Mr. Parag Bagsad. 150 students attended the expert lecture.



Guest Lecture , “Sustainable Development’ ”



Event “Fire Fighting Drill ”

**Name of Faculty Coordinator :**

Mrs. Monica P. Ugale

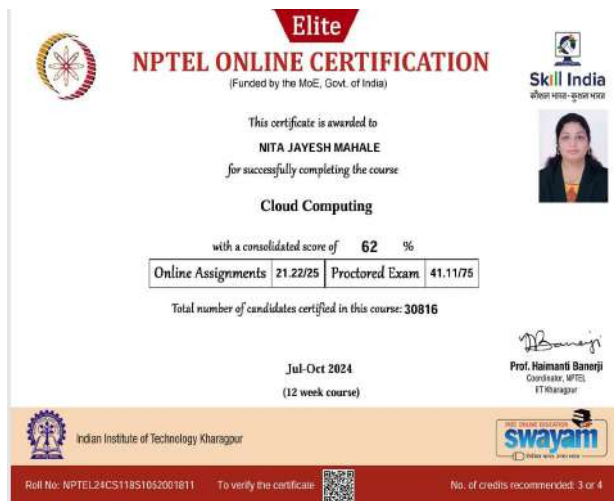
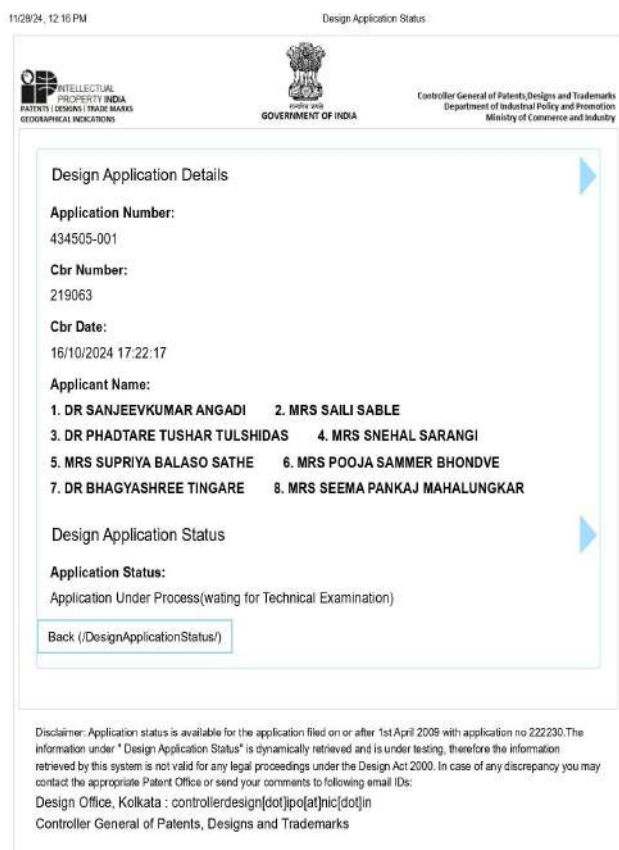
**Dr.P.T.Nitnaware**  
Head of Department



**NEWS LETTER – NOVEMBER 2024**

**Faculty Achievements and Participation:**

- Dr. Bhagyashree Tingare, Assistant Professor of AIDS, has published E- book “Cybersecurity Strategies for Industrial Control Systems” on SIP publisher in November 2024.
- Dr. Bhagyashree Tingare, Assistant Professor of AIDS, has published Patent “IOT BASED AGRICULTURE ROBOT FOR PESTICIDE SPRAYING” in November 2024.



**Faculty Achievements and Participation**

**Name of Faculty Coordinator :**

Mrs. Trupti G. Lonkar

Dr Vinayak Kottawar  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Faculty Achievements and Participation:**

- Mrs. Nitanjali Mane and Mrs. Rajshri Ingale, Assistant Professor of AIDS, has Participated in training program “Data Science with Python” Conducted by Wipro TalentNext from 11th November 2024



Faculty Achievements and Participation

**Name of Faculty Coordinator :**

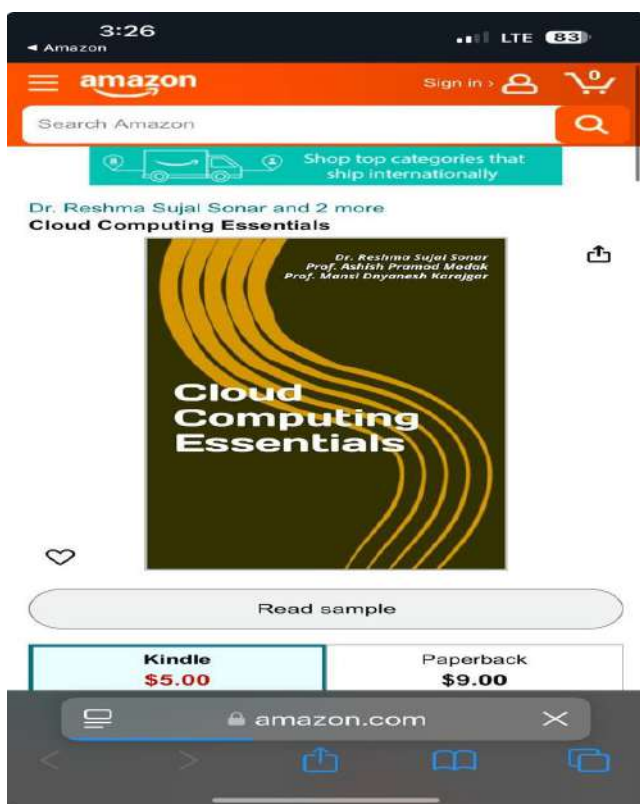
Mrs. Trupti G. Lonkar

Dr Vinayak Kottawar  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Faculty Achievements and Participation:**

- Mrs. Manasi Karajgar, Assistant Professor of AIDS, has published E- book “Cloud Computing Essentials” on Amazon and published a paper “TechSpot MediSys: An Innovative Centralized Hospital Management System” in November 2024.
- Mrs. Rasika Wattamwar, Assistant Professor of AIDS, has published a paper “Human-Centric Design for Wearable Technology: Bridging Aesthetic and Functional Aspects in Smart Devices” in November 2024.



Panamerican Mathematical Journal  
ISSN: 1064-9735  
Vol 35 No. 2s (2025)

**Human-Centric Design for Wearable Technology: Bridging Aesthetic and Functional Aspects in Smart Devices**

Rasika Vishal Wattamwar<sup>1</sup>, Dhanraj Dhotre<sup>2</sup>, Sulochana Sagar Madachane<sup>3</sup>, Nilophar Tayyab Mulani<sup>4</sup>, Sunil Appaso Kumbhar<sup>5</sup>, Ravindra Suresh Kamble<sup>6</sup>

<sup>1</sup>Department of Artificial Intelligence and Data Science, D Y Patil College of Engineering, Akurdi, Pune, India.

<sup>2</sup>Department of Computer Science and Engineering, MIT School of Computing, MIT Art Design and Technology University, Loni Kalbhori, Pune, India.

<sup>3</sup>Department of Information Technology, SIEST Graduate School of Technology, Nerul, Navi Mumbai, India.

<sup>4</sup>Department of Information Technology, D Y Patil College of Engineering, Akurdi, Pune, India.

<sup>5</sup>Department of Computer Science and Engineering, School of Engineering and Technology, D Y Patil Agriculture and Technical University, Talsande, Kolhapur, India.

rasikawattamwar3@gmail.com<sup>1</sup>, dhanraj.dhotre@mituniversity.edu.in<sup>2</sup>, sulochana.madachane@gmail.com<sup>3</sup>, nmulani@dypcoakurdi.ac.in<sup>4</sup>, sunilkumbhar05@gmail.com<sup>5</sup>, ravikamble13@gmail.com<sup>6</sup>

Faculty Achievements and Participation Certificates

**Name of Faculty Coordinator :**

Mrs. Trupti G. Lonkar

Dr Vinayak Kottawar  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Students Achievements and Participation:**

- Ms. Sonam Patole from TE A div, has successfully completed course “My SQL Basics” and “Advanced SQL” on November 2024.
- Mr. Aniket Waghmode from TE B div, has Successfully undergone Industrial Program on Machine Learning from Fox Trading from 01st Oct, 2024 to 15th Nov, 2024 and successfully completed the projects on “Predict Diabetes with Machine Learning” in 15th November 2024.
- Mr. Harshal Patil from TE A div, has successfully completed NPTEL (Elite) course “Python for data Science” course duration FROM July 24 to October 2024.



**Student Achievements Glimpse**

**Name of Faculty Coordinator :**

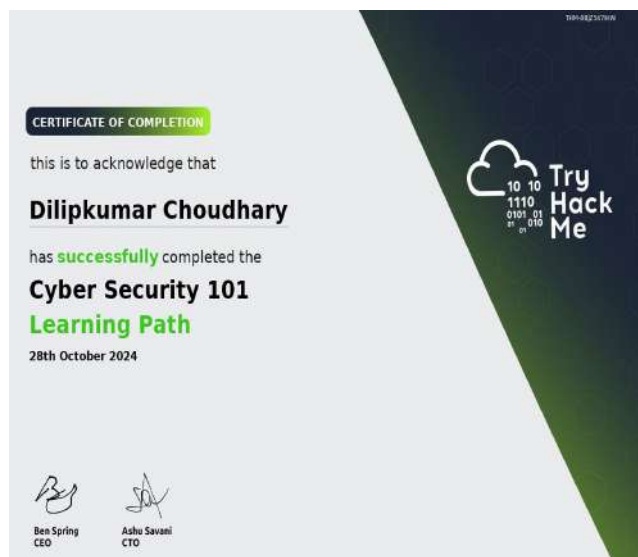
Mrs. Trupti G. Lonkar

Dr Vinayak Kottawar  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Students Achievements and Participation:**

- Ms. Manasvi Dusane SE C div, has got LPF scholarship is merit-cum-need based, and can provide up to INR 50,000 per year.
- Mr. Choudhary Dilipkumar from SE A Div, has successfully completed course “Cyber security 101 learning path” on 28th October 2024.
- Mr. Vivek Amrutkar and Mr. Ashish Ghosalkar from SE , has Participation in breaking into Tech: Navigating AI development and DSA on November 2024.



Student Achievements certificate

**Name of Faculty Coordinator :**

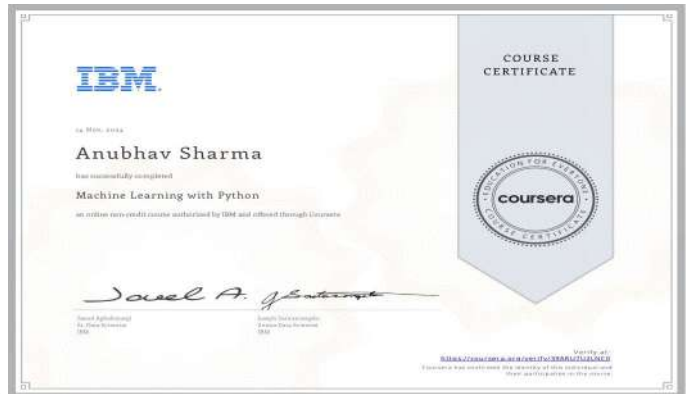
Mrs. Trupti G. Lonkar

Dr Vinayak Kottawar  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Students Achievements and Participation:**

- Mr. Anubhav Sharma from TE A Div, has successfully completed course “Applied data science capstone”, “IBM Data Science Certificate”, “IBM Data Science”, “Machine learning”, “Machine learning” “IBM data science professional certificate” in November 2024.



Student Achievements certificate and Glimpse

**Name of Faculty Coordinator :**

Mrs. Trupti G. Lonkar

Dr Vinayak Kottawar  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Students Achievements and Participation:**

- Mr. Anubhav Sharma from TE A Div, has Successfully Completing first round of Dhairya Intercollege debate competition held on 16th November 2024.
- Ms. Nanadini Bavane from SE B div, successful completion of the 5-Day Basics of AI Workshop conducted by TechVritti in partnership with Microsoft” on 8th November 2024.
- Mr. Amish Faye from TE A div, has successfully completed course “Data Analysis with Python” on 14th November 2024.
- Mr. Aditya Vispute from TE A div, has successfully completed course “Programming and application foundation” on 21st November 2024.



Student Achievements certificate and Glimpse

**Name of Faculty Coordinator :**

Mrs. Trupti G. Lonkar

Dr Vinayak Kottawar  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Students Achievements and Participation:**

- Mr. Sanmay Dattatray Kotkar from TE A div, has successfully completed NPTEL course “Data Structure And Algorithm using Java” course duration from July 24 to October 2024.



The image shows a certificate from NPTEL (National Programme on Technology Enhanced Learning) awarded to Sanmay Dattatray Kotkar. The certificate is for the course "Data Structure and Algorithms using Java" completed between July and October 2024. It states that the student achieved a consolidated score of 51%. The certificate also includes a table of performance: Online Assignments (14.94/25) and Proctored Exam (36/75). The total number of candidates certified in this course is 5081. The certificate is signed by Prof. Haimanti Banerji, Coordinator of NPTEL at IIT Kharagpur. The certificate is issued by the Indian Institute of Technology Kharagpur and is part of the Swayam program. The roll number is NPTEL24CS96S352001565 and the number of credits recommended is 3 or 4.

**NPTEL ONLINE CERTIFICATION**  
(Funded by the MoE, Govt. of India)

This certificate is awarded to  
**SANMAY DATTATRAY KOTKAR**  
for successfully completing the course  
**Data Structure and Algorithms using Java**

with a consolidated score of **51** %

Online Assignments	14.94/25	Proctored Exam	36/75
--------------------	----------	----------------	-------

Total number of candidates certified in this course: **5081**

Jul-Oct 2024  
(12 week course)

Prof. Haimanti Banerji  
Coordinator, NPTEL  
IIT Kharagpur

Indian Institute of Technology Kharagpur

Roll No: NPTEL24CS96S352001565      To verify the certificate       No. of credits recommended: 3 or 4

Student Achievements certificate and Glimpse

**Name of Faculty Coordinator :**

Mrs. Trupti G. Lonkar

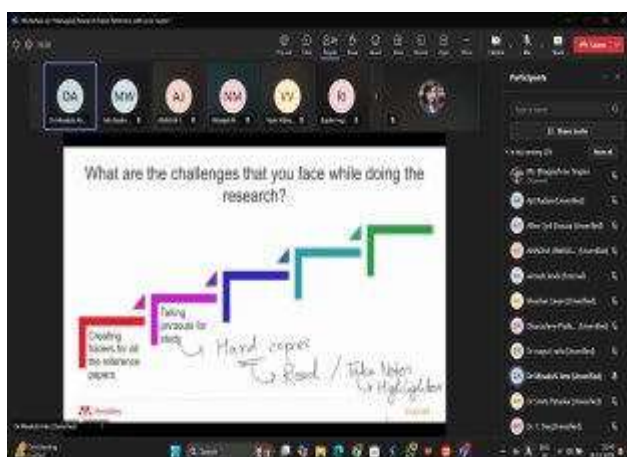
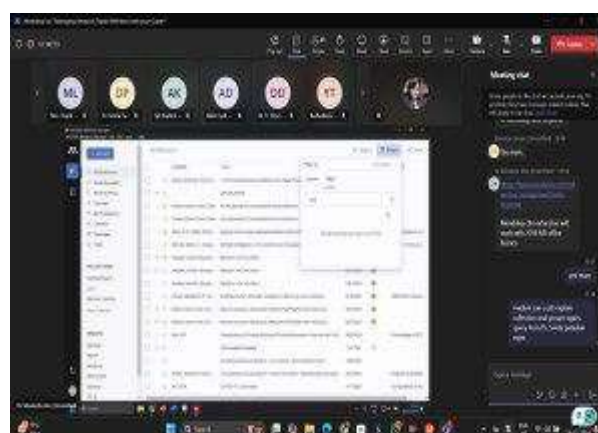
Dr Vinayak Kottawar  
Head of Department



**NEWS LETTER – NOVEMBER 2024**

**Department activities:**

- Department of Artificial Intelligence and Data Science Engineering Organized Workshop on “Managing Research Paper Reference with your Guide” for Faculty members on 29th November 2024. Dr. Minakshi Atre, Mendeley Advisor and Elsevier Coordinator, HOD AIDS was the speaker for the session. Dr. Vinayak Kottawar and Dr. Bhagyashree Tingare coordinated the workshop. Around 71 participants, including faculty members, research scholars, and students attended the session.



Some Glimpses of the Workshop

**Name of Faculty Coordinator :**

Mrs. Trupti G. Lonkar

Dr Vinayak Kottawar  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Faculty Achievements and Participation:**

- Dr. N. K. Kamble , H.O.D robotics and automation have published patent on “Green technology for lithium, nickel and cobalt recycling in electric vehicle batteries.”
- Dr. N. K. Kamble and Dr. S. S. Sarnobat have published paper on “On Mechanical Behavior and Characterization of soft Tissues ”

Application Details	
APPLICATION NUMBER	202421055787
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	22/07/2024
APPLICANT NAME	1 . Mr. Nilesh Mohan Gosavi 2 . Dr. Nitin Kundlik Kamble 3 . Mr. Ramesh Dnyandeo Sul 4 . Mrs. Kalpana Shantling Lamture 5 . Mr. Ganesh Haribhau Kawade
TITLE OF INVENTION	GREEN TECHNOLOGY FOR LITHIUM, NICKEL AND COBALT RECYCLING IN ELECTRIC VEHICLE BATTERIES
FIELD OF INVENTION	ELECTRICAL
E-MAIL (As Per Record)	volksphantomip@gmail.com
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	08/11/2024

## On Mechanical Behavior and Characterization of Soft Tissues

Radhika Chavan<sup>1</sup>, Nitin Kamble<sup>2</sup>, Chetan Kuthe<sup>3</sup>  
and Sandeep Sarnobat<sup>2</sup>

<sup>1</sup>Department of Mechanical Engineering, D Y Patil College of Engineering, Akurdi, Pune, India.

<sup>2</sup>Department of Robotics and Automation, D Y Patil College of Engineering, Akurdi, Pune, India.

<sup>3</sup>Department of Mechanical Engineering, Maharashtra Institute of Technology, Aurangabad, India.

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DOI: 10.1177/11795972241294115



**Name of Faculty Coordinator :**

Mrs. Tejas A. Jadhav

**Dr N. K. Kamble**  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Faculty Achievements and Participation:**

- Mr. Pradnesh Padave approved Budge for conducting TRS-SCALE (Phase -2) under The Robotics Society



## The Robotics Society

To,

D. Y. Patil College of Engineering, Akurdi, Pune  
Akurdi, Pune,  
Email: prpadave@dypcoekurdi.ac.in

**Subject: Budget Approval for conducting TRS-SCALE (Phase-2).**

Approval Number: TRS-SCALE 2024/ Phase I/ (SC Registration No. -TRS-SC/23/036)

Madam/ Sir,

We are pleased to inform you that a budget amounting of Rs. 15,000.00 (Rupees Fifteen Thousand only) has been approved against the proposal submitted by you for conducting The Robotics Society-Student Chapter-Activity for Learning and Enriching (TRS-SCALE) in your TRS student chapter **by January 2025** (*Request for extension may be taken separately, if required*).

TRS-SC Faculty Coordinator: Mr. Pradnesh,

This approval letter is based on the proposal submitted by the coordinator. The letter needs the signature of the coordinator and the competent authority of the Institution at end to accept the approval. The accepted letter should be sent back to the Secretary, TRS for release of the fund.

Best Wishes



(TRS Secretary)

**Name of Faculty Coordinator :**

Mrs. Tejas A. Jadhav

**Dr N. K. Kamble**  
Head of Department

NEWS LETTER – NOVEMBER 2024

**Student Achievements and Participation:**

- Mr. Aditya Chavan , student of final year completed Course certification on Disney Plus Hotstar Data Analysis Project in 90 min.
- Mr. Aditya Chavan , student of final year completed Course certification on Blinkit Data Analy-



Name of Faculty Coordinator :

Mrs. Tejas A. Jadhav

Dr N. K. Kamble  
Head of Department

**NEWS LETTER – NOVEMBER 2024**

**Student Achievements and Participation:**

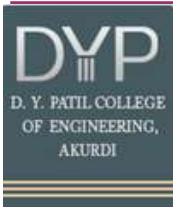
- Mr. Omkar Yelsange , student of third year completed Course certification on Prompt Engineering for Everyone .
- Ms. Yugandhara Shinde , student of third year completed Course certification on Industrial Automation
- Mr. Om Harsule , student of third year Recognized as a Google Cloud Certified Associate Cloud Engineer



**Name of Faculty Coordinator :**

Mrs. Tejas A. Jadhav

**Dr N. K. Kamble**  
Head of Department



**Newsletter Team:**

Dr. Mrs. P. Malathi (Principal)

Mrs. Dipalee Divakar Rane , Assistant Professor, Computer Engineering

Mrs. Arti A. Utikar, Assistant Professor, Instrumentation & Control

Mrs. Swati S. Jadhav, Assistant Professor, First Year Engineering

Mr. Hiranman Jadhav, Assistant Professor, Information Technology

Ms. Dipalie Pujari, Assistant Professor, Electronics & Telecommunication

Mrs. Monika P. Ugale, Assistant Professor, Mechanical Engineering

Mrs. Trupti Lonkar, Assistant Professor, AI and DS

Mrs. Neha Bagdiya, Assistant Professor, Civil Engineering

Mrs. Tejas Jadhav, Assistant Professor, Robotics & Automation

Ms. Supriya Sathe , Assistant Professor , Computer Engineering

Mr. Ganesh Nimgire, Assistant Professor, First Year Engineering



**Dr. Mrs. P. Malathi**  
**Principal**



**Dr. S. S. Sarnobat**  
**Vice Principal**



**Mrs. Dipalee D. Rane**  
**Coordinator**



**Mrs. Arti A. Utikar**  
**Coordinator**



**Mrs Swati S. Jadhav**  
**Coordinator**



**Mr. Hiranman Jadhav**



**Ms. Dipalije Pujari**



**Mrs. Trupti Lonkar**



**Mrs. Neha Bagdiya**



**Mrs. Monika P Ugale**



**Ms. Supriya Sathe**



**Mr. Ganesh Nimgire**



**Mrs. Tejas Jadhav**

**NEWS LETTER - NOVEMBER 2024**



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**Twitter QR Code**



**Youtube QR Code**

**Visit Our Campus**



D. Y. Patil College of Engineering, Dr. D. Y. Patil Educational Complex, Sector 29, Nigdi Pradhikaran, Akurdi Pune 411044

<https://www.dypcoeakurdi.ac.in>

For enquiry or information : [info@dypcoeakurdi.ac.in](mailto:info@dypcoeakurdi.ac.in)

**For any other queries contact (College reception): +91-20-27653058**