



**Dr. D. Y. Patil**  
 Founder, Dr. D. Y. Patil Group

**Dr. Sushant Patil**  
 President, DYPEF

**Dr. Suresh Mali**  
 Principal, DYPCOEI

## Department of Artificial Intelligence and Data Science

### Monthly Report: December 2024

#### IPR ACTIVITY

##### Patents

- Dr. Dipannita Mondal**

- Nanotechnology and Artificial Intelligence (AI) are revolutionizing cancer diagnostics by enabling the precise detection and analysis of nanoparticles in blood samples. Nanoparticles, which include biomarkers such as proteins, nucleic acids, and exosomes, play a crucial role in early cancer detection. This study explores the integration of nanotechnology for the isolation and characterization of these particles with AI algorithms for data analysis. By employing machine learning models to interpret complex datasets, the approach facilitates accurate cancer prediction and enhances diagnostic sensitivity and specificity. This fusion of cutting-edge technologies promises a transformative impact on personalized medicine, offering early interventions and improved patient outcomes.

(12) PATENT APPLICATION PUBLICATION	(21) Application No.202441090434 A
(19) INDIA	
(22) Date of filing of Application :21/11/2024	(43) Publication Date : 29/11/2024
(54) Title of the invention : NANOTECHNOLOGY AND ARTIFICIAL INTELLIGENCE BASED ANALYSIS OF NANOPARTICLES IN BLOOD FOR CANCER PREDICTION	

- This innovation introduces a smart, AI-powered automated bus fare collection system designed to modernize public transportation payment processes by utilizing 6G networks and contactless smart card technology. The traditional fare collection approach, which depends on manual transactions, often faces challenges like handling exact change and delays in ticket processing. Our proposed system addresses these





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challenges by implementing a cashless, contactless fare collection mechanism where passengers use smart cards that are scanned by a reader. Upon scanning, travel details are input, and the fare amount is instantly deducted and transferred to the transport authority's account using the high-speed, low-latency capabilities of 6G networks.

(12) PATENT APPLICATION PUBLICATION	(21) Application No.202441088462 A
(19) INDIA	
(22) Date of filing of Application :15/11/2024	(43) Publication Date : 22/11/2024
(54) Title of the invention : ARTIFICIAL INTELLIGENCE BASED AUTOMATED BUS FARE COLLECTION SYSTEM	

## FACULTY IMPROVEMENT PARTICIPATED IN FACULTY DEVELOPMENT PROGRAM

1. Mr. Suraj Bhoite : From 2nd December 2024 to 6th December 2024, Mr. Suraj Bhoite, Assistant Professor of the Department of AI&DS, successfully completed One Week Faculty Development Program on “Generative AI and its Multidomain Use cases” organised by Department of Information Technology, Vishwakarma Institute of Technology, Pune.





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2. **Mrs. Asmeeta Mali** : From 23<sup>rd</sup> December 2024 to 27<sup>th</sup> December 2024, Mrs. Asmeeta Mali, Assistant Professor of the Department of AI&DS, successfully completed One Week Faculty Development Program on “Mastering AI Tools for faculty Excellence” Organized in association with IEEE Computer Society Pune Chapter by Department of CSE - Artificial Intelligence & Department of CSE-AI&ML, Vishwakarma Institute of Information Technology, Pune.



3. **Mrs. Asmeeta Mali** : From 23<sup>rd</sup> December 2024 to 28<sup>th</sup> December 2024, Mrs. Asmeeta Mali, Assistant Professor of the Department of AI&DS, successfully completed One Week Faculty Development Program on “Exploring Data Analysis: Techniques and Tools” Organized by Dept. of AI&DS, MMMS Institute of Technology, Lohgaon, Pune.





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## PARTICIPATED in An Interdisciplinary Outreach Workshop on Virtual Lab of IIT Bombay Participation

All faculties of Department of AS&DS participated in An Interdisciplinary Outreach workshop on Virtual Lab of IIT Bombay an initiative of Ministry of Human Resource Development, Govt. of India under Nodal Centre ID: 153 at D Y Patil College of Engineering, Akurdi, Pune on Tuesday, 3rd December, 2024.





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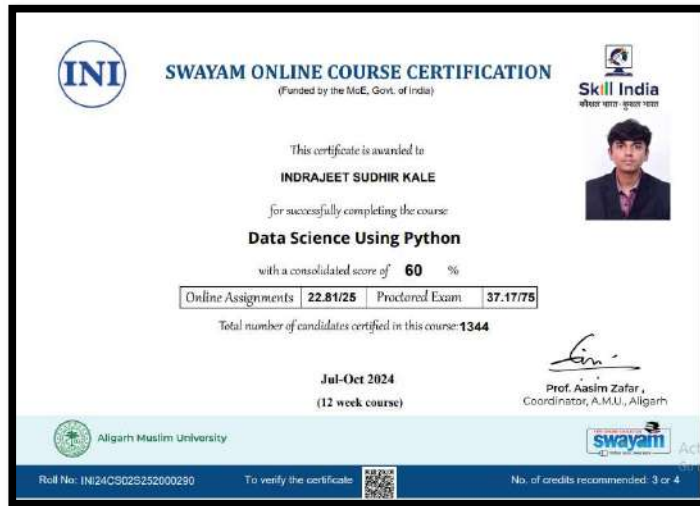
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## STUDENT ACHIEVEMENTS NPTEL CERTIFICATION

### 1. Indrajeet Sudhir Kale

Indrajeet Sudhir Kale successfully completed 12 week course July-October 2024 “Data Science using Python” with a score of 60% from Swayam Online Course Certification.



### 2. Kasturi Sunil Sabale

Kasturi Sunil Sabale successfully completed 12 week course July-October 2024 “Data Science using Python” with a score of 68% from Swayam Online Course Certification.





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**3. Akansha Hemant Hedau**

Akansha Hemant Hedau successfully completed 12 week course July-October 2024 “Data Science using Python” with a score of 60% from Swayam Online Course Certification.



**4. Dnyaneshwari Shashikant Sonawane**

Dnyaneshwari Shashikant Sonawane successfully completed 12 week course July-October 2024 “Data Science using Python” with a score of 62% from Swayam Online Course Certification.



**Ms. Deepali Narwade**  
**Coordinator**

**Dr. Dipannita Mondal**  
**Head, Dept. of AI&DS**

**Dr. Suresh Mali**  
**Principal**

