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NEWSLETTER

CSE - ARTIFICIAL INTELLIGENCE

NUTAN MAHARASHTRA VIDYA PRASARAK MANDAL'S

NUTAN MAHARASHTRA INSTITUTE OF ENGINEERING AND TECHNOLOGY

Samarth Vidya Sankul, Vishnupuri
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LEGACY SINCE 1906

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Path To AI Excellence



ENGINEERING FOUNDATION

- > Cultivating proficient engineers in computer



AI SPECILIZATION

- > Deep understanding of AI Techniques



SKILL DEVELOPMENT

- > Emphasizing value - added courses and skills



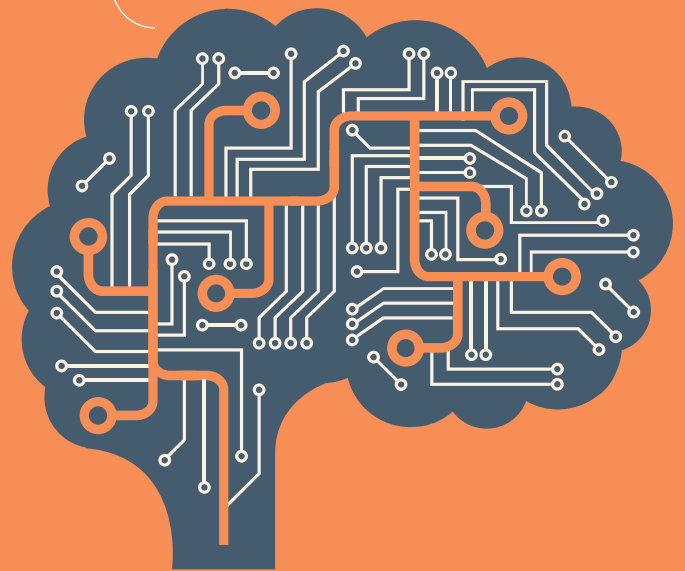
HOLISTIC GROWTH

- > Focus on problem - solving and leadership



CAREER OPPORTUNITIES

- > Opening doors to successful AI career



CSE-AI INSIGHTS

NMIET (Nutan Maharashtra Institute of Engineering and Technology) was founded in 2008. The All India Council for Technical Education (AICTE) in New Delhi and the Maharashtra Government's Directorate of Technical Education (DTE) have both recognized the institute. It is a part of Pune's Savitribai Phule Pune University (SPPU). There are Seven undergraduate courses offered by the institute. Computer Engineering, Information Technology, Mechanical Engineering, Electronics, and Telecommunication Engineering are some of the undergraduate courses available.

DEPARTMENTS -

- › Computer Engineering
- › Computer Science Engineering
- › CSE-Artificial Intelligence
- › Electronics and Telecommunication Engineering
- › Mechanical Engineering
- › Information Technology
- › Bachelor of Vocational Courses



NMIET VISION AND MISSION

VISION -

To be a notable institution for providing quality technical education and ensuring ethical, moral and holistic development of students.

MISSION -

To nurture engineering graduates with state of the art competence, problem solving skills and professionalism to serve needs of industry as well as society.

CSE-AI DEPT. VISION AND MISSION

VISION -

Excellence in the domain of Artificial Intelligence towards serving the greater cause of society and globally recognized for contributing professional engineers with a commitment to the readiness of industry-oriented skill through potential research.

MISSION -

- › To develop skill-based education and ethical professionals for students that will enhance expertise in through industry-institute interaction and research.
- › To apply new optimized advanced methods in problem solutions for various societal challenges.
- › To contribute towards innovation through interdisciplinary and analytical skills.

ABOUT THE PROGRAMME

The Department of Computer Science Engineering (CSE-AI) offers an undergraduate program in Artificial Intelligence with an intake of 60 students. Our dedicated faculty mentors students, guiding them to harness their strengths and excel as ambassadors for the department and institute. This cutting-edge program covers programming, software engineering, computer networks, algorithms, and problem-solving, equipping students with a well-rounded computing skill set. Focused on designing intelligent solutions across various industries, the program reflects the rapid growth of AI applications over the last decade. Leading companies like Google, Amazon, Ford, and financial institutions such as Barclays and CitiBank utilize AI for data insights, decision-making, and trend analysis.

Principals Desk



DR. S. N. SAPALI
Principals - NMIET

It is a privilege to address the students, faculty, and readers of the second newsletter of CSE-AI department. Artificial Intelligence is shaping the future, and our CSE-AI department is dedicated to equipping students with the knowledge and skills needed to thrive in this transformative era. Through cutting-edge curriculum and innovative teaching methods, we aim to empower students to design intelligent solutions and tackle real-world challenges. Our enthusiastic and accomplished faculty ensures that students excel in programming, algorithm design, and analytical problem-solving. The CSE-AI department newsletter is an excellent platform to showcase the achievements, innovations, and aspirations of our talented students and faculty. I appreciate and congratulate the team for their hard work and dedication in bringing this idea to life. I encourage everyone to make the most of the opportunities here at NMIET and contribute to a brighter technological future.

Head Of the Department's Desk

Welcome to the Department of Computer Science & Engineering -Artificial Intelligence, PCET's NMVPM's Nutan College of Engineering and Research, Pune. We at NMIET are offering an inspiring 4 - year B. Tech program in "Computer Science & Engineering Artificial Intelligence" for the younger minds who choose to pursue a fruitful profession in Artificial Intelligence and it is the most conspicuous technology that is instrumental in transforming the facet of industry and mankind. The main goal of this department is to produce skilled engineers with a strong computer science engineering background along with understanding and competencies in Artificial Intelligence which should open the doors to a fruitful career. We are committed to making a profound and lasting contribution to society in this program, we shall grow the knowledge of students to build novel applications using machine learning, Natural Language Processing, Computer Vision, etc. in addition to the state-of-the-art curriculum, with more emphasis is placed on enriching the students learning experience by providing value-added courses, skill development programs and participation in technical competitions. The department is strongly prepared to face new exciting

challenges in this new digital era and also to be one of the best institutions in the state of Maharashtra. For the holistic development of students, we have provided a strong foundation in computer science and problem-solving techniques and are made adaptable to changes with a strong emphasis on value added courses and project-based learning through mini projects, industry visits, guest lectures, student activities, leadership events, etc. "Skill-based education is the currency of the future through opening the doors to new opportunities".



PROF. (DR.) SAGAR SHINDE

HOD - CSE AI

Staff of the CSE – AI Department

› **PROF. (DR.) SAGAR SHINDE**
Head of the Department

› **MRS. PRIYANKA VYAS**
Assistant Professor

› **MRS. DIPIKA PARANJAPE**
Assistant Professor

› **MS. UTTARA VARADE**
Assistant Professor

› **MR. VAIBHAV SURYAWANSHI**
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› **MS. POOJA TAMBE**
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› **MRS. KOMAL RAJGUDE**
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Lab Assistant

› **MR. PRATAP CHANDEKAR**
Lab Assistant

› **SHRI. SANDEEP HAJARE**
Peon



DEPARTMENT OBJECTIVES



**CURRICULUM
EXCELLENCE**



**SKILL
DEVELOPMENT**



**HOLISTIC
GROWTH**

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INDUCTION PROGRAM

- Second Year (2024-25)

July - Dec
2024

The CSE-AI Department organized an induction program for second-year students from 22 July 2024 to 31 July 2024, aimed at helping them transition into their specialized fields. The program included various interactive sessions such as sports activities, extension activities, school visits, team-building exercises, and expert-led discussions. Industry professionals and faculty members conducted these sessions, fostering connections among students and helping them build strong networks. Through the program, students were introduced to department-specific goals, advanced subjects, industry trends, and the use of resources like labs and tools relevant to their branch, equipping them for future academic and professional challenges. The program concluded on a positive note with an engaging Q&A session, inspiring students to align their studies with their career aspirations and paving the way for holistic growth and success in CSE-AI engineering.

Date	Day	Time	Program/Event/Activity	Expert
15/07/24	Monday	8.30 a.m. to 10.00 a.m.	Universal Human values	Mr. Vaibhav Suryanwanshi
		1.30 p.m. to 4 p.m.	Creative Arts	Ms. Uttara Varade
			Physical Activity	Mrs. Dipika Paranjape
16/07/24	Tuesday	1.30 p.m. to 4 p.m.	Physical Activity	Mr. Kishor Landge
		8.30 a.m. to 10.30 a.m.	Literacy	Mrs. Priyanka Vyas
		11.00 a.m. to 1.00 p.m.	Design Thinking Literacy	Mrs. Dipika Paranjape
18/07/24	Thursday	1.30 p.m. to 3.30 p.m.	Physical Activity	Mr. Kishor Landge
		8.30 a.m. to 10.30 a.m.	School Visit	Mrs. Dipika Paranjape
		11.00 a.m. to 1.00 p.m.	Importance of Communication Skills in Corporate World	Expert from Elixir Spoken English Classes
19/07/24	Friday	1.30 p.m. to 3.30 p.m.	Physical Activity	Mr. Kishor Landge
		8.30 a.m. to 10.30 a.m.	Marketing & Finance	Mr. Aniket kulkarni
		11.00 a.m. to 11.45 a.m.	Session on NPTEL	Ms. Pooja Tambe
		12.00 a.m. to 1.00 p.m.	Think Green –Session on Environment Sustainability	Mr. Vijay Satpute
22/07/24	Monday	1.45 p.m. to 3.30 p.m.	Basic Programming Concepts	Ms. Uttara Varade
		8.30 a.m. to 9.30 a.m.	Familiarization with department & innovation	Mrs. Priyanka Vyas
		9.30 a.m. to 10.30 a.m.	Familiarization with department & innovation (lab visit)	Mrs. Priyanka Vyas
		2.30 p.m. to 3.30 p.m.	Universal Human values	Ms. Uttara Varade

GLIMPSE

Second Year Induction



Budo Karate Session



Playing Games with School Students



Session - Marketing & Finance



Felicitation of Guest Mr. Atharva Landage



Session on Design and Thinking



Session On - Importance of Communication in Corporate World



Felicitation of Faculty During School Visit

Practical Approach of Design and Think



INDUCTION PROGRAM

- Third Year and B. Tech (2024-25)

July - Dec
2024

The CSE-AI Department organized an induction program for third-year students on July 22, 2024, to July 31, 2024. The Third Year Induction Program was successfully conducted to guide students into their advanced courses. Various interactive games, School visits, team-building activities, and expert sessions were organized, where industry professionals and faculty members were conducted to help students connect and build strong networks. Shared insights on career development, research opportunities, and emerging trends in various fields.

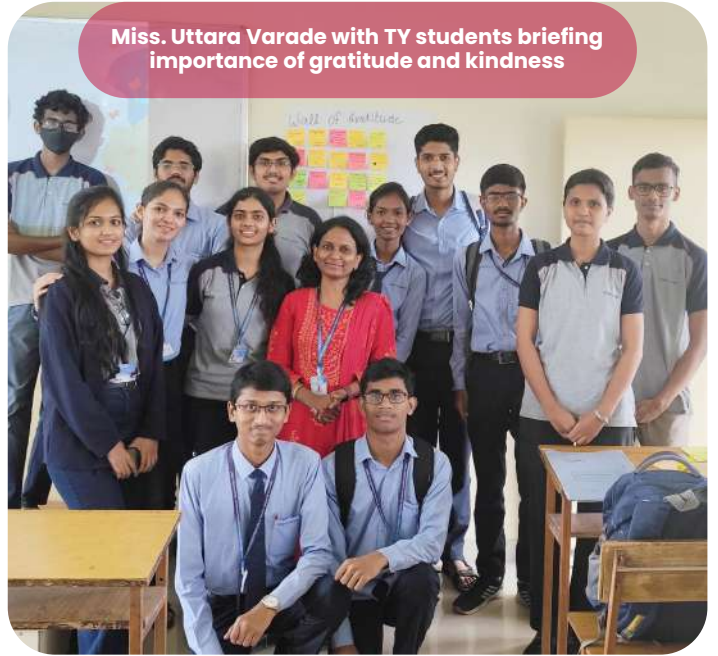
The program concluded on a positive note with an engaging Q&A session, leaving students motivated and prepared for the year ahead.

Date	Program / Event / Activity	Expert
22-07-2024	Conversational skills in English	Mr. Amol Bade
	Universal Human values	Ms.Uttara Varade
	Importance of Mini Project	Mrs. Komal Rajgude
23-07-2024	Conversational skills in English	Mr. Amol Bade
	Session on Block chain Technology organized by Department of Computer Science and Engineering	Mrs. Sarita Charkha
	Importance of Mini Project	Mrs. Komal Rajgude
24-07-2024	Conversational skills in English	Mr. Amol Bade
	Basics of Practical	Mrs. Dipika Paranjape
	JAVA Programming	Mrs. Komal Rajgude
	Importance of Mini Project	Mrs. Komal Rajgude
29-07-2024	Foundation for ADS	Mrs. Dipika Paranjape
	Foundation for ML	Mrs. Priyanka Vyas
	Online platform for Aptitude test and technical rounds	Ms. Pooja Tambe
	Department Vision , Mission and Academic Plan for the Holistic Development	Dr. Sagar Shinde
30-07-2024	Complex Engineering Problems with respect to Environmental Science and Sustainable Solutions through Artificial Intelligence	Mrs. Priyanka Vyas

GLIMPSE TY & B. Tech Induction



Felicitation of Ms. Uttara Varade by student



Miss. Uttara Varade with TY students briefing importance of gratitude and kindness



TY Student explaining AI concept in simple language to curious school students



Mr. Badhe Sir taking Session on Conversational Skill

EXPERT SESSION

Complex Engineering Problem w.r.to Environment Science and Sustainable Solutions through Artificial Intelligence.

July - Dec
2024

The CSE-AI department organized an expert session on "Complex Engineering Problem w.r.to Environment Science and Sustainable Solutions through Artificial Intelligence" on July 30, 2024. The guest speakers, Dr. Rahul Mungikar, a Professor at DES Pune University, DY Director at Shrushti Conservation Foundation. Coordinated by Mrs. Priyanka Vyas, the session was highly interactive and informative.

Total 53 students from second and third year attended the session. This session will be greatly beneficial for students, as students are able to identify problem statement and problem solutions in environmental science through analysis, design implementation of artificial intelligence solutions.



Felicitation of Dr. Rahul Mungikar by HoD



Explanation on Environment Science



Dr. Rahul Mungikar - Interactive Session



EXPERT SESSION

4D Project Development Cycle for Modernization.

July - Dec
2024

The CSE-AI department organized an expert session on "4D Project Development Cycle For Modernization" on July 31, 2024. The guest speakers, Mr. Ravindra Mokashi, Project Manager, Brillio, Pune, has over 15 years of experience in project management. Session was coordinated by Mrs. Priyanka Vyas, which was highly interactive session, where students can understand various phases of project such as planning, designing, and deploying the solution of project management through hands on.

Total 42 students from third year and B. Tech attended the session. This session will be greatly beneficial for students, as students are able to understand implementation of advanced techniques like agile methodology in execution of academic project work.



Er. Ravindra Mokashi guide students in Project Cycle



Mr. Ravindra Mokashi explaining concept



Mr. Ravindra Mokashi explaining concept of Scrum & Project Phase of Modernization



Felicitation
Mr. Ravindra Mokashi by HoD

4D PROJECT DEVELOPMENT CYCLE



PLANNING

This phase involves strategic foresight and detailed preparation to guide the project.



DESIGN

Focuses on creating innovative and efficient designs to meet project goals.



IMPLEMENTATION

Encompasses the execution of plans through coordinated actions and resources.



EVALUATION

Involves assessing outcomes to ensure objectives are met and improvements identified.

DEPARTMENTAL ADVISORY BOARD

Meeting 2024

CSE-Artificial Intelligence Department organized a second Departmental Advisory Board Meeting-2024 (DAB) on August 09 2024 in the NCER Conference Hall. The meeting was chaired by Principal Dr. Aparna Pande and convener, Dr. Sagar Shinde - Head of Department. The meeting was attended by Academician Prof. Dr. S.G. Bhirud and various industrial representatives Dr. Suchitra Khoje, Dr. Kaustubh Sakhare, Er. Abhijit Sutar and Er. Atul Patil, department faculty representative Mrs. Priyanka Vyas, Ms. Uttara Varade, parent representative and student representatives. It is important for collaboration between faculty, industry experts, and other stakeholders to align academic programs with current industry trends and needs.



- a. Felicitation of Academic representative Dr. S. G. Bhirud Sir
- b. Felicitation of Academic representative Dr. Kaustubh Sakhare
- c. HoD Dr. Sagar Shinde give presentation about overall academic growth
- d. overlooks the department progress and suggested some core values
- e. Student and Alumni Representative shared his experience about the department

VALUE ADDED COURSE

IBM SkillsBuild Cloud



The CSE-AI department organized a value-added course on "IBM SkillsBuild Cloud" on August 08, 2024 to August 10 2024 coordinated by Ms. Pooja Tambe and Mr. Vaibhav Suryavanshi. The guest speakers, Mr. Yogesh Raje, Master Trainer, and Mr. Aditya Dambale, Master Trainer, made this course interactive through practical hands-on projects, encompassing machine learning models and chatbots by using the IBM Cloud Platform, model development, and deployment. A total of 99 students from the second and third year attended the session.



**Benefits of
IBM's Skills
Build Cloud**



Continuous Learning



Career Advancement



Skill Development



Networking Opportunity

ONE DAY WORKSHOP

Design Thinking and Innovation

The CSE-AI department organized one day workshop on “Design Thinking and Innovation” on September 09, 2024 to August 10 2024. The expert Mrs. Apurva Thosar, Deputy Director-Centre of Excellence - Design Thinking and Innovation. Workshop was coordinated by Mrs. Dipika Paranjape, students closely understand design thinking process and its five stages i.e. Empathize, Define, Ideate, Prototype and Test. Total 111 students from second and third year attended the one day workshop. This workshop will be greatly beneficial for students, as students are able to use design thinking principles in their own projects, as well as students are able to design a solution ensuring that solutions are ethical so that it should not be compromised by ethical issues.



Felicitation of Guest Speaker Mrs. Apurva Thosar



Students enjoying one day hands on workshop



Expert explaining design thinking process and its stages



Curiosity about design thinking process and its stages

INDUSTRY VISIT

Brightsea Technology

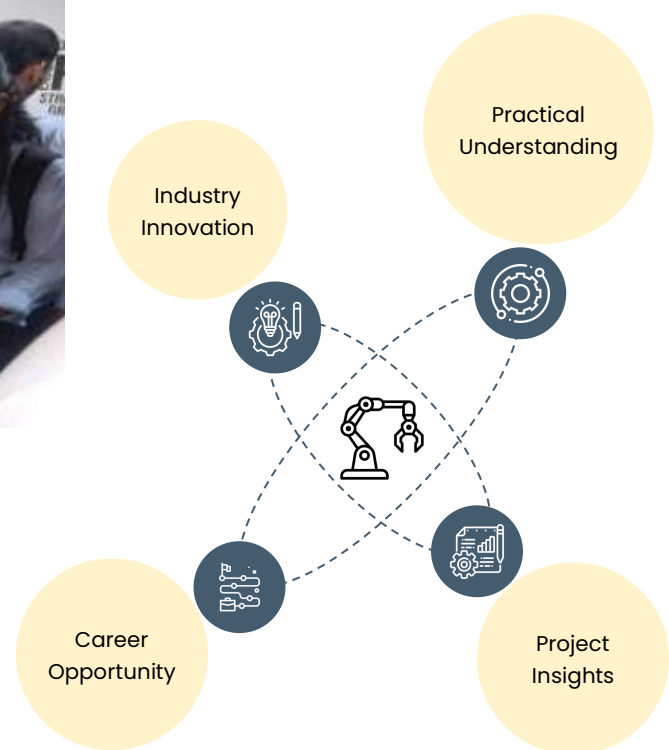


CSE-Artificial Intelligence Department organized an industry visit at Brightsea Technology, Hadapsar, on 30th August 2024, coordinated by Mr. Santosh Varpe. A total of 63 third-year students attended the industry visit.

Academic industrial visits help students understand industry practices; it bridge the gap between theoretical knowledge and real-world applications. At Brightsea Technology, employees gave information about ongoing web development projects, ERP systems, Android application development, and Java-based projects. Students also gain knowledge about



Highlights of Industry visit at "Brightsea Technology"



INDUSTRY VISIT

NRSC ISRO - Hyderabad



CSE-Artificial Intelligence Department organized an industry visit at Brightsea Technology, Hadapsar, on 10th Oct 2024, coordinated by Mr. Santosh Varpe. A total of 24 students from second, third-year attended the industry visit.

Academic industrial visits help students understand industry practices; it bridge the gap between theoretical knowledge and real-world applications. At NRSC/ISRO, Students observed how NRSC/ISRO applies multidisciplinary approaches to develop innovative solutions that address societal and space challenges. This experience helped them understand the importance of integrating different domains of knowledge to solve complex problems.



- a. Visit at NRSC / ISRO Centre
- b. NRSC/ISRO has conducted quiz competition
- c. Dr. R Shrinivas Sir has given information about rocket and antennas, which is used to control satellite
- d. Students are visited ordinary area where satellite models are placed which are used for different purposes.



› ARTICLE 1

“The Future of Work with AI : Emerging Careers and Essential Skills”

Artificial intelligence (AI) is rapidly transforming industries worldwide, automating tasks, enhancing productivity, and creating more efficient systems. But while headlines often focus on the jobs AI could replace, there’s another side to this story: AI is also creating a range of new job opportunities. Understanding how AI is shaping the workforce can help us prepare for the future, ensuring that people have the skills needed to thrive in an AI-driven world. Here, we’ll explore how AI is creating jobs, emerging roles in AI, and the skills that will be essential for a successful career in the age of AI.

AI as a Job Creator, Not Just a Job Displacer -

While AI can automate repetitive tasks, it also opens doors for innovation and creates previously unimaginable jobs. Just as the industrial revolution shifted labor from farms to factories and the digital revolution moved work from paper to screens, AI is sparking a transition in the job landscape. AI-powered industries like healthcare, finance, education, and logistics are experiencing demand for roles that support AI technology everything from data processing to model training and ethical oversight.

Consider the healthcare industry: AI-driven diagnostics are helping medical professionals detect diseases more accurately and earlier than ever. This isn’t about replacing doctors; rather, it’s about empowering them with better tools. As a result, AI is creating roles in medical data analysis, AI ethics in healthcare, and the development of AI-enhanced medical devices.

In finance, AI algorithms analyze data to help predict market trends, identify fraud, and manage risk, creating demand for professionals who understand both finance and AI. Even fields like education and customer service are seeing growth in AI-related roles as these sectors leverage technology for personalized learning and more responsive customer interactions.

Emerging careers in AI-Driven Industries -

As AI technology advances, new roles are emerging that cater specifically to the needs of AI systems. Here are some of the most promising AI-related careers:

AI-Ethicist: AI Ethicists focus on addressing issues like bias, fairness, and transparency, ensuring that AI systems are used responsibly and equitably.

Machine Learning Engineers and Data Scientist: These professionals are vital for

developing, fine-tuning, and deploying machine learning models. They work on processing data, building algorithms, and designing AI systems, making them core players in AI innovation.

AI Trainers and Annotators: AI systems, especially those using supervised learning, need vast amounts of labeled data. AI Trainers and Annotators provide labeled data to train these models, especially in specialized fields like medical imaging or autonomous driving.

Robotic Process Automation (RPA) Specialist: RPA specialists implement AI-driven automation to streamline organizational processes, from automating data entry to handling repetitive business tasks. As businesses adopt RPA to boost efficiency, the demand for these specialists is increasing.

Natural Language Processing (NLP) Engineers: With the rise of conversational AI systems like chatbots and virtual assistants, NLP Engineers who specialize in language-based AI applications are in high demand. They work to improve human-computer interactions, making these systems more natural and user-friendly.

Skills For AI-Driven Future -

Machine Learning and Data Science: Knowledge of machine learning algorithms, data processing, and statistical analysis is critical. Familiarity with programming languages like Python and R, along with machine learning frameworks like TensorFlow and PyTorch, can make candidates competitive.

Data Management and Analysis: Analyzing and interpreting data is a fundamental skill as AI systems rely on large datasets. Skills in data cleaning, visualization, and tools like SQL and Excel are increasingly important.

Cloud Computing: Many AI systems are deployed on cloud platforms, so understanding services from AWS, Azure, or Google Cloud can be an asset, especially in companies looking to integrate scalable AI solutions.

Conclusion -

Embracing AI as a Catalyst for Growth: The rise of AI signals more than just a technological shift; it represents a chance to redefine how we work and create value. Rather than simply replacing human jobs, AI can catalyze new careers, open doors to innovation, and reshape entire industries. As AI continues to advance, so too will the opportunities for people equipped with the right skills and a mindset geared toward adaptation and growth.

References -

- [1] World Economic Forum (WEF) – Provides an in-depth look at the skills that will be most in demand in an AI-driven job market, with a focus on adaptability and core skills.
- [2] World Economic Forum (WEF) – <https://www.weforum.org>
- [3] Analytics Insight – <https://www.analyticsinsight.net>
- [4] MIT Sloan School of Management – <https://mitsloan.mit.edu>

- [5] Jobs for the Future (JFF) – <https://www.jff.org>
- [6] Analytics Insight – This site gives insights into emerging trends in AI careers, with detailed predictions for job roles and skill requirements by 2025.
- [7] Jobs for the Future (JFF) – JFF’s AI-Ready Workforce report examines how AI will transform job roles rather than replace them, underscoring the need for durable, human-centered skills.

- Submitted By
Nikeeta Garrade
(TE, CSE - AI)

› ARTICLE 2

“Revolutionizing Game AI with NVIDIA ACE - Autonomous Game Characters for the Future of Gaming”

AI has transformed dramatically at the core of gaming. In the old days, the non-playable characters were made with predefined rule-based behaviors to give the feel of interaction, but that usually lacked depth when compared to a human player's contribution to the game. However the advent of sophisticated language models and the expansion of generative AI has set game AI for an overhaul that will possibly redefine the experience of virtual worlds. ACE, the autonomous game character from NVIDIA, is a giant leap in this evolution that brings human-like intelligence to virtual characters.

NVIDIA's ACE or AI Character Engine was a new 2023 technology. It applies some accelerated RTX technologies so that the characters in the game are more realistic. After conversational NPCs, now it is being developed towards autonomous game characters capable of perceiving, planning, and acting like human players. Characters with ACE can no longer be locked down on always pre-scripted interactions but in a more dynamic response to an ever-changing landscape in a game, providing more engaging experiences for players.

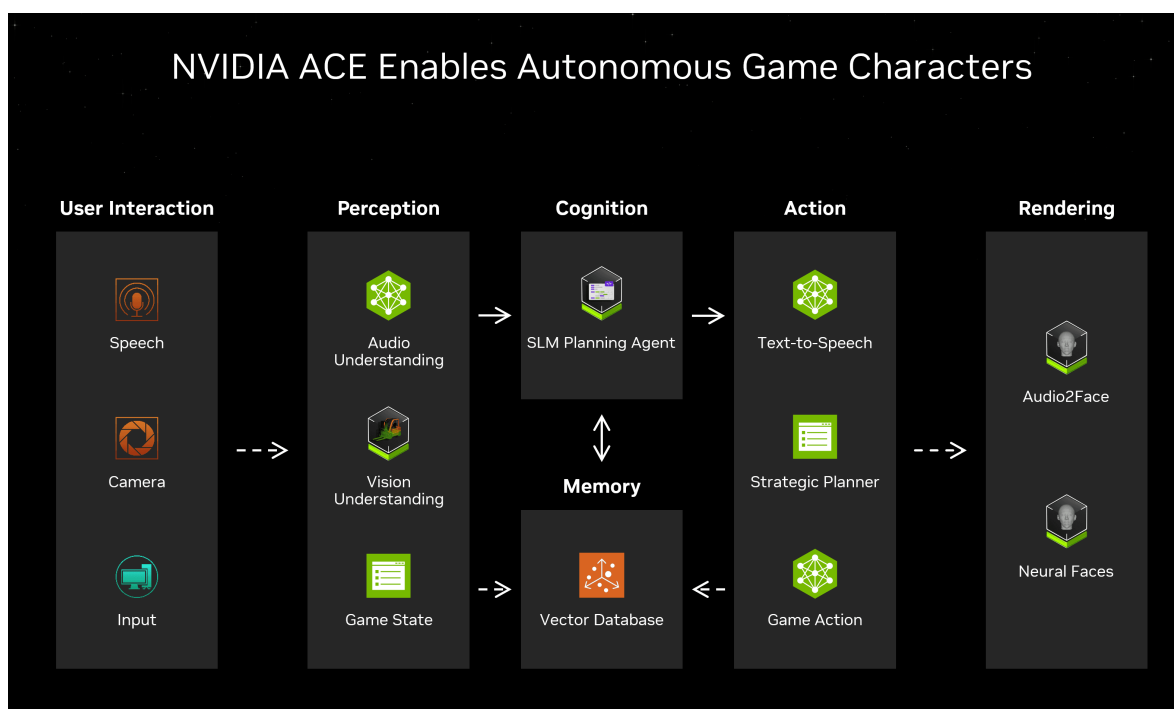
At CES 2025, the company unveiled its next step toward ACE, its vision for "elevated gaming," demonstrating how it makes possible autonomous characters—companions that understand a player's objectives, enemies who dynamically respond to tactics, and bosses who can learn and evolve in real-time.

Understanding how humans make decisions is the first step to replicating that decision-making process in AI characters. Cognitive processes, which rely on perceptions, motivations, and memories, form the foundation of decision-making. Imagine hearing your phone ring—your memory informs you that you're expecting a call, and your motivation not to miss it leads to the decision to answer the phone.

In gaming, this process is mirrored in how AI characters perceive their environment,

process data, and take actions. NVIDIA's ACE models combine cutting-edge techniques to replicate this process, creating NPCs that don't just follow scripted instructions but make intelligent, context-aware decisions based on the game world around them.

Key AI Models Behind ACE –



To make all these autonomous characters in the game, NVIDIA exploits a set of small language models (SLMs) that enable high-frequency decisions in-game environments.

1. Perception

Autonomous characters need to continually receive sensory inputs from their surroundings to make a decision. To this end, NVIDIA uses high-end models in:

- **Audio** : Nemo Audio-4B-Instruct model interprets sounds and describes the soundscape in a game. It's designed to make sure your characters can respond to audio clues, such as footsteps or gunfire.
- **Vision** : The NemoVision-4B-128k-Instruct model gives characters a better understanding of their surroundings, processing visual data to make spatial decisions. Game State: The state of the game itself is translated into text so that the AI can reason about current conditions and act accordingly.

2. Cognition

Characters in games are always making decisions from simple tasks such as correcting aim to more complex strategic decisions. NVIDIA's Mistral-Nemo-Minitron models, with 2B to 8B parameters, enable fast cognition by interpreting data quickly, thus ensuring that characters make decisions in real-time without delays.

3. Action

After the decision, the character should act appropriately, which may be moving, speaking, or fighting. NVIDIA combines Action Selection models to choose the best

actions, along with Text-to-Speech models like Elevenlabs.io to convert text responses into audio, making interactions feel more natural.

4. Memory

Memory systems in such characters are not inconsistent with human decision-making, where past experiences inform the latter. Using techniques involving RAG, characters can retrieve previous actions and outcomes, and in turn, self-correct and improve.

Introduction to Autonomous Game Characters in Action

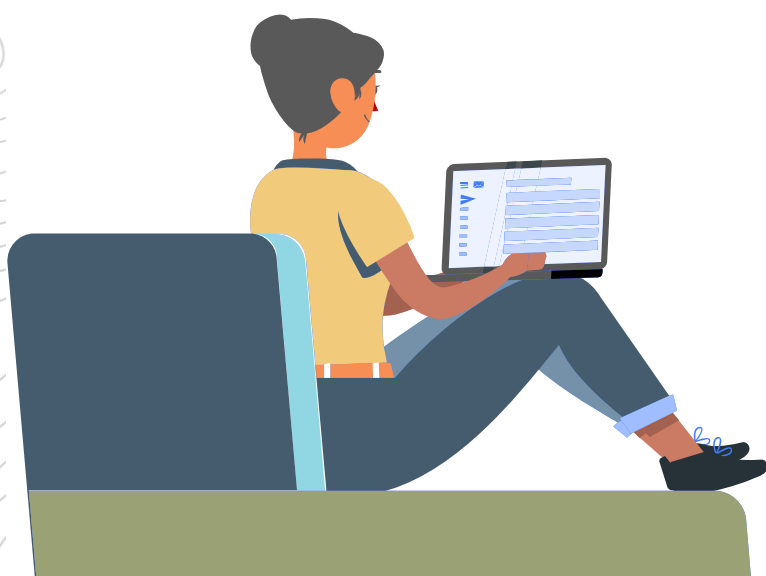
The integration of ACE's autonomous characters brings dynamic gameplay to life in new and exciting ways. These characters are autonomous teammates who can follow orders, assist with objectives, and give strategic input. They perceive the world around them, understanding when to adapt based on changing game conditions.

In games such as **PUBG : BATTLEGROUNDS**, **MIR5** and **NARAKA : BLADEPOINT MOBILE**, the player can interact with AI companions who think, plan, and act much like human players. Enemies powered by ACE AI also evolve dynamically, adjusting to the strategies of the player, so each encounter is unpredictable and challenging. The AI-driven NPCs do not just react; they learn from the tactics of the player and adjust their behavior accordingly, ensuring that no two playthroughs are ever the same.

The NVIDIA ACE is a significant leap toward when AI is made to augment play. Using the decision-making processes of a human, perception, cognition, and memory, the play outlines a new standard in interactive games with adaptive gameplay developed through generative AI. The brighter prospects for gaming abound in AI complements that prepare for enemies as well as for companions; it will tell its own stories in more dynamic and ever-changing worlds. As the gaming industry moves forward, NVIDIA's ACE technology may well become the cornerstone of the next generation of gaming AI.

References :

- [1] <https://www.nvidia.com/en-in/geforce/news/nvidia-ace-autonomous-ai-companions-pubg-narakabladepoint/>
- [2] <https://ieeexplore.ieee.org/abstract/document/7792145>



- Submitted By
Shantanu Shinde
(T.E. Student CSE - AI)

ART OF CREATION

Innovative Ganesh Idol Making – Cultural Club Activity

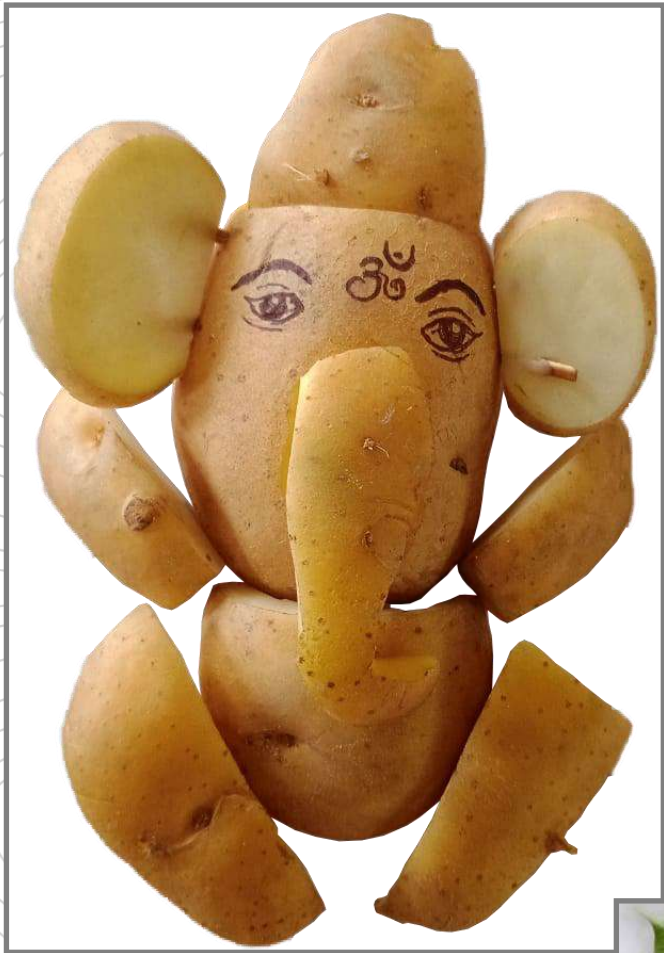


Cultural Club of CSE-AI department successfully organized "Art of Creation-Innovative Ganesh Idol Making activity" on September 5, 2024 in Lab No. 203. Activity coordinated by Mrs. Komal Rajgude, Mrs. Jayshri Gujar. During activity, students made the Idol Ganesha using various natural resources like leaves, flowers, grains, fruits, and vegetables. Students made digital Ganesh also using Python software. Through this cultural club, we focus on students creativity, out-of-box thinking, and inspiration for new innovative ideas.

Highlights of Art of Creation - Innovative Ganesh Idol Making Activity



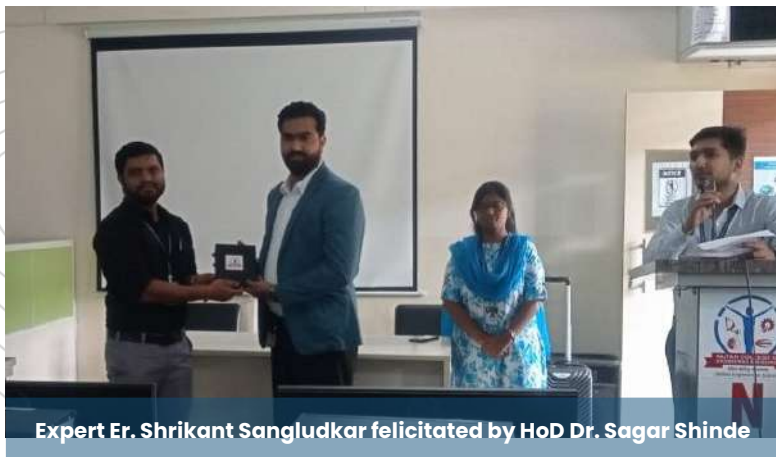
Student Creation - Glimpse of Cultural Club Activity



EXPERT SESSION

Tips and Tricks for Smart India Hackathon – 2024 and guidelines for PPT

The CSE-AI department organized an expert session on **“Tips and Tricks for Smart India Hackathon-2024 and Guidelines for PPT”** on 11th September 2024. The expert Mr. Shrikant Sangludkar, Group Manager, WNS Global Services, session was coordinated by Mr. Vaibhav Suryavanshi. The session was highly informative, as students are able to understand the structure of SIH 2024 and problem - solving techniques to create solutions. A total of 111 students from the second and third years attended the session. This session will be greatly beneficial for students, as students are able to equip participants with the skills and knowledge to utilize modern tools and technologies for developing software solutions tailored to societal needs, environmental challenges and entrepreneurship opportunities in the context of SIH 2024.



Expert Er. Shrikant Sangludkar felicitated by HoD Dr. Sagar Shinde



Er. Shrikant Sangludkar explained various aspects of the subject on context of SIH



WEBINAR

Comprehensive Overview of Endpoint Protection in Cyber Security System.

The CSE-AI Department organized a webinar on "Comprehensive Overview of Endpoint Protection in Cyber Security Systems" on September 22, 2024. An expert, Dr. Gaurav Wagh, PhD, from Rochester Institute of Technology, USA, is working as a cyber security engineer at Eagleview Technologies, Rochester, New York. This session was coordinated by Mrs. Priyanka Vyas and Mr. Santosh Varpe. A total of 39 students from the third year and BTech attended the session. Through this session, students gain knowledge about practical use cases of cybersecurity and also understand privacy-preserving frameworks for smart grids and endpoint protection in cyber security systems. Overall, the webinar proved to be an enriching experience for the students, equipping them with essential knowledge and insights into the ever-evolving field of cyber security.

PCET - NMVPM's
NUTAN COLLEGE OF ENGINEERING
AND RESEARCH (NCER)

DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE

Webinar
on
"Comprehensive Overview of Endpoint Protection in Cybersecurity Systems"

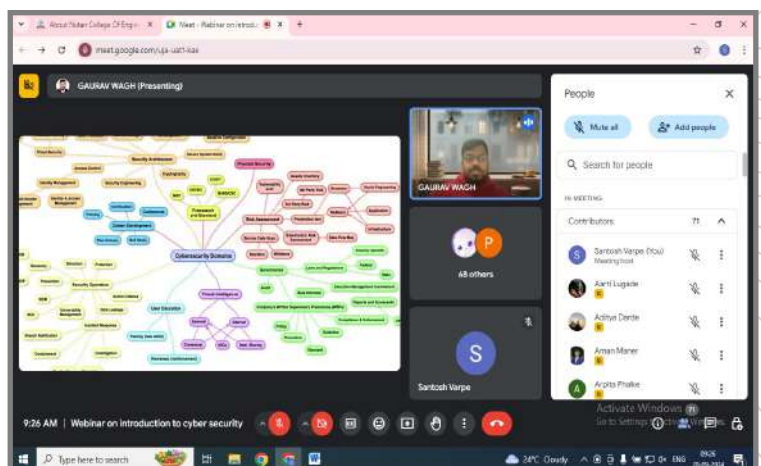
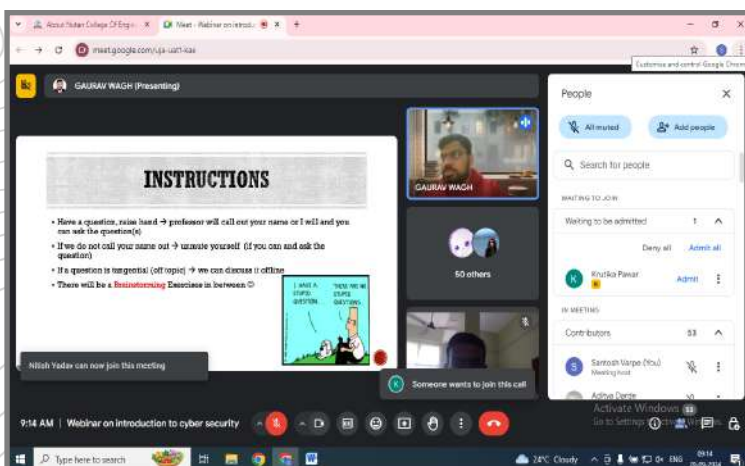
Date:- 20th September 2024
Time:- 09:00 am onwards

Dr. Gaurav Wagh
(PhD - Rochester Institute of Technology, USA)
Cyber Security Engineer,
Eagleview Technologies, Rochester , New York.

Mrs. Priyanka Vyas
Mr. Santosh Varpe
Coordinator

Dr. Sagar Shinde
HoD, CSE-AI

Dr. Aparna Pande
Principal



EXPERT SESSION

Tips and Tricks for Campus placement.

The CSE-AI Department organized an expert session on "Tips and Tricks for Campus Placement" On 3rd October, 2024. Mr. Dipak Pawar is an expert working as data scientist, at Collabera Digital Bangalore, thoroughly explained tips and tricks for campus placement to students. A total of 57 students have attended the session. He provide guidance on mastering technical, HR, and group discussion rounds, focusing on techniques for confident and professional presentations. The session was coordinated by Mr. Vaibhav Suryavanshi.

This session was valuable for students, as it provided training on HR techniques and understanding company values.



EXPERT SESSION

Overseas Career Opportunities

The CSE-AI department organized an expert session on "Overseas Career Opportunities." On October 04, 2024. Mr. Raj Kapoor, Study Metro Pvt. Ltd, Pune, thoroughly explained the scenario of attending master's degree abroad in developing countries like Germany, USA and Canada. The session was coordinated by Mr. Santosh Varpe and Mrs. Dipika Paranjape. Expert present various avenues for securing overseas positions, such as internships and graduate programs. A total of 20 students have attended the session. He provides guidance and learns that adapting to new environments, cultures, and technologies requires openness to learning and growth over time.

This session was invaluable for students, as students gain a clear understanding of the diverse overseas career opportunities available in engineering fields, along with specific countries and sectors that are in demand.



Session Highlights and Felicitation of Mr. Raj Kapur by Mrs. Priyanka Vyas



INTERNSHIPS

Essential for gaining practical experience and entering international markets.

GRADUATE PROGRAMS

Key for advancing education and enhancing career prospects abroad.

ADAPTABILITY

Crucial for thriving in new cultural and technological environments.

CULTURAL ADAPTATION

Important for integrating into different work environments globally

TECHNOLOGICAL ADAPTATION

Vital for keeping up with global tech advancements in careers



OVERSEAS CAREER
OPPORTUNITIES

ETHNUS PLACEMENT TRAINING PROGRAM FOR TY STUDENTS

The CSE-AI department organized a training and placement session for third-year students coordinated by the Ethnus organization from 10th October 2024 to 24 October 2024. The program was coordinated by Mr. Vaibhav Suryavanshi, and 66 students attended the session. The session is mainly focused on placement training where students can apply mathematics, science, and specialized knowledge to solve complex analytical and technical problems. It helped third-year and B.Tech students as it prepared them for campus placements by enhancing their technical knowledge, soft skills, and aptitude. It boosts confidence for interviews and increases employability by providing practical exposure to real-world challenges.



Session on aptitude during Ethnus Placement Training Program



Glimpses of Ethnus Placement Training Program For TY Student



Technical session during Ethnus Placement Training Program

QUIZ COMPETITION

Through AI - ML Club Activity

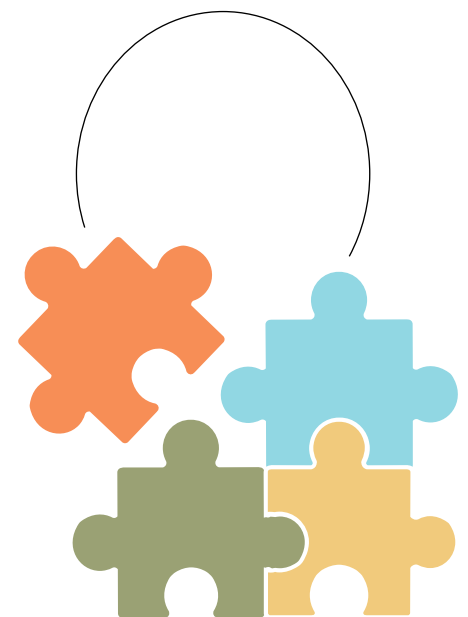
The Artificial Intelligence and Machine Learning Club (AI-ML) Club organized a quiz competition for students on November 08, 2024 coordinated by Mr. Santosh Varpe. This quiz competition were very helpful for students to improve their critical thinking and leadership skills by engaging in various activities designed to challenge their problem-solving abilities. It encourages students to stay updated on AI-ML trends, promotes healthy competition, and nurtures collaboration and teamwork. Such activities also build a strong foundation for real-world applications and innovation in AI and machine learning.



Glimpses of Quiz Competition



Glimpses of Quiz Competition - Student coordinator explained rule of Quiz competition



GLIMPSES OF QUIZ COMPETITION

Student coordinator explained
rule of Quiz competition

SPACE ON WHEELS

Activity by ISRO and VIBHA

The Department of CSE-Artificial Intelligence organized a "Space on Wheels" activity conducted in coordination with ISRO and VIBHA on 8th Nov 2024 in NMIET campus, coordinated by Dr. Sagar Shinde, Mrs. Priyanka Vyas and Ms. Uttara Varade. Students, faculty and society members from the surrounding region total of 350 people visited to the activity. The Space on Wheels Exhibition highlights ISRO's use of advanced technologies, including artificial intelligence, to analyze complex problems in space exploration and satellite applications, inspiring participants to apply AI concepts in identifying and solving real-world challenges.



Felicitation of Guest by Principal Madam and CEO Sir



Inauguration by NCER Principal Dr. Aparna Pande



Students from surrounding region schools ,college visited space on wheels and enjoyed activity



TY students as a volunteer explains information about space technology and equipment



VALUE ADDED COURSE

Course on AI - ML

CSE-Artificial Intelligence organized a value-added course on AI-ML by Er. Amol Patil from 11 Nov to 19 Nov 2024. This 5-day value-added course is coordinated by Mr. Vaibhav Suryavanshi and Miss. Pooja Tambe. Total

Value-added course really helped students to better design, train, and evaluate machine learning models and concepts using techniques like supervised or unsupervised regression models. This session made students ready with profound knowledge and valuable skills for this technology-driven world.



Felicitation of Er. Amol Patil by HoD Sir



Expert explained the concept of machine learning models and libraries



ART GALLEY

CSE AI DEPARTMENT

Poetry World

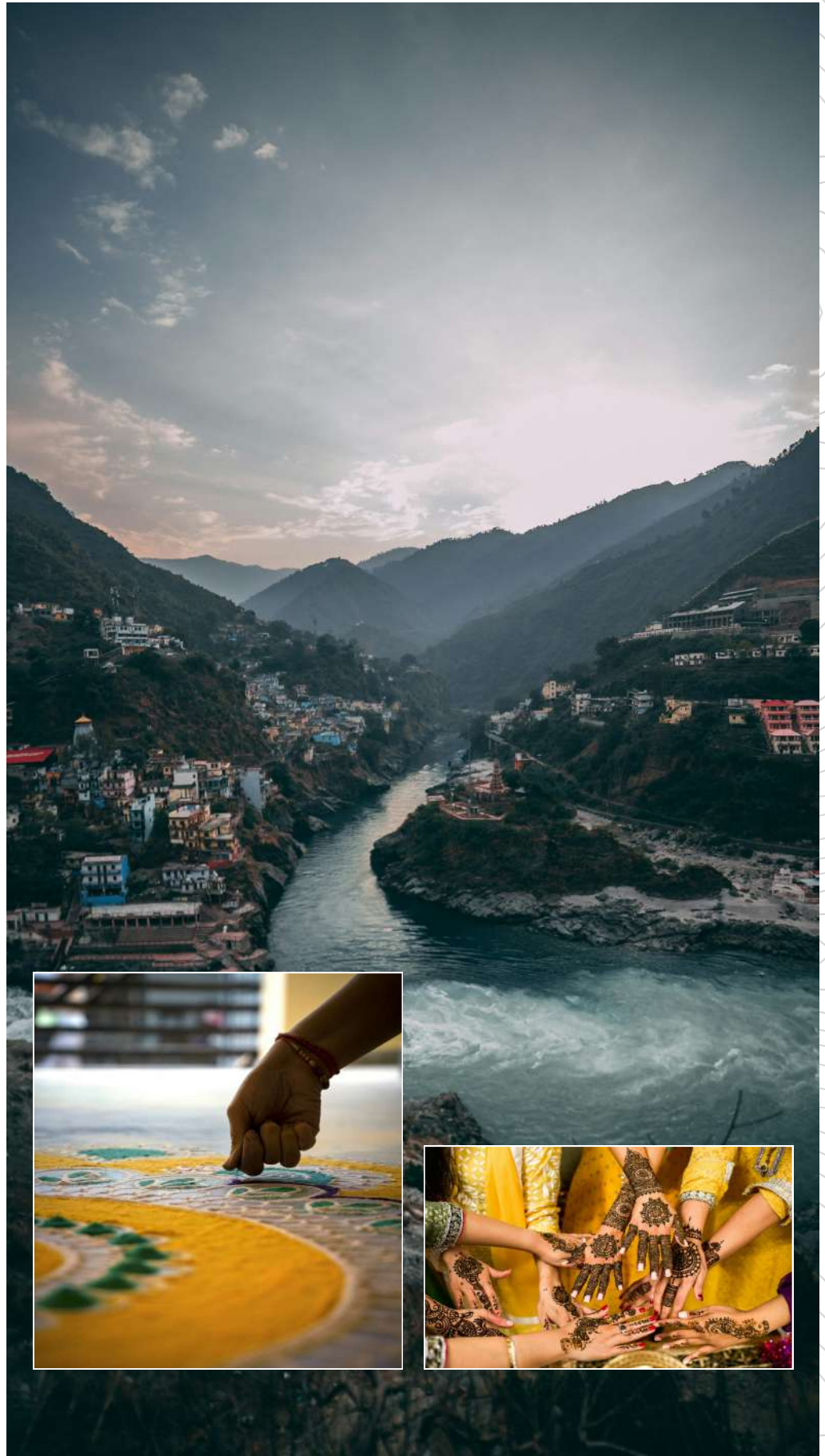
Rangoli Art

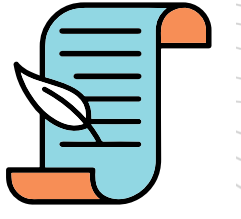
Drawing Art

Mehandi Art

DIY Newspaper Art

Photography





कांचन पाऊस

अंधाराच्या कुशीतून
उगवली सोनेरी पहाट
कांचन रूपाने
बरसती पाऊस
पावसाच्या सरी
कधी अलगद, अवखळ
कधी बरसती धुवाधार
विसावुनि धरणीवर
फुलवूनी त्यातून स्वप्नांचे अंकूर
अश्रू पुसती जनांचे
वाच्यासंगे इलवून

- उत्तरा वंराडे
सहाय्यक प्राध्यापक

तू खुबियां देख

तू खुबियां देख, कमियां में क्या रखा है...
तू यादें बना, बातों में क्या रखा है...
तू सपनों के पिछे भाग, लोगों में क्या रखा है...
तू बच्चा बनकर रेहें, समझदारी में क्या रखा है...
तू भरोसा कर, शक में क्या रखा है...
तू खुद से प्यार कर,
क्योंकि, उसमें बहुत कुछ रखा है...!!

- अर्जिंक्य जाधव
द्वितीय वर्ष

माझं गाव कधी एक होईल का ?

माझं छोटसं गाव
त्याबद्दल सांगू तरी काय काय राव... गाव लहान असो किंवा मोठं
तिथं माणसे एकत्र असावी लागतात
त्याला गाव म्हणत नाहीत
जिथे आपलीच माणसं आपल्याकडे
विरोधी नजरेने पाहतात ...
माणसं पैशाच्या मागं धावता धावता कुठे कुठे पसरली आणि
शेवटी आपल्याच गावाला विसरली ...
निवडणुकांमुळे चांगली कामं तर लांबच
पण
आपलीच आपल्यापासून तुटतात
श्रीमंत लोकं हॉटेलच्या जेवणाची लालूच दाखवून
गरिबांची मतं लुटतात ..
पैसे घेऊन मतदान करण्याची कधी जाईल तुमची खोड ...
अरे! जरा लक्षात घ्या
अजून तुमच्याच मुलांना शाळेत जायला नाही रोड ...
संपूर्ण गाव जर आज एक असतं

तर रस्त्याचं काम मागं राहिलं नसतं ...
गाव एक कुटुंब असतं
ज्यात प्रत्येकाने प्रत्येकाला समजून घ्यायचं असतं
नुसतच भांडत बसायचं नसतं ...
गावात रस्तेच नाही तर
एसटी तरी कशी येणार ? मग बिचारे विद्यार्थी
नवनवीन कला
कशा अवगत करून घेणार ?
प्रत्येक निवडणुकीत पैसे वाटता मला प्रश्न पडतो ?
नेमका शिल्लक तरी किती आहे पैशांचा साठा ?
खूप शिल्लक असेल पैशांचा साठा तर
जरा ते शाळेसाठी पण वाटा...
शिक्षक आणि शाळा म्हणजे गावाची शान...
गाव डिजिटल आणि देश महासत्ता बनवायचा असेल तर
शिक्षकांना आणि शाळेला द्या मान...
सगळेच लोक एकत्र आले तर...
गाव काय, देश डिजिटल व्हायला वेळ नाही लागणार...
अजून किती दिवस
तुम्ही स्वतःच्याच आयुष्याशी चुकीचं वागणार ?
गुरुंचा सुसंस्कारित विद्यार्थी असाल तर

ते ज्ञान कुठेतरी वापरा....
गावात चांगलं वागा जरा...
प्रत्येकानं गावासाठी काहीतरी करा...
प्रत्येकानं असं ठरवा मी तेव्हाच मरेन.
जेव्हा गावासाठी काहीतरी करेन...

- सानिका बारगुजे
अहमदनगर





Mrs. Jayshri Gujar
Lab Assistant



Drawing Art



MANDAL ART - Ms. Sanika Barguje (TY Student)



SKETCH
- Mrs. Jayashree Gujar
Lab Assistant



SKETCH
- Ms. Sanika Barguje
TY Student



DRAWING - Ms. Sanika Barguje (TY Student)

PAINTING - Ms. Uttara Varde (Asst. Prof.)



MEHANDI ART



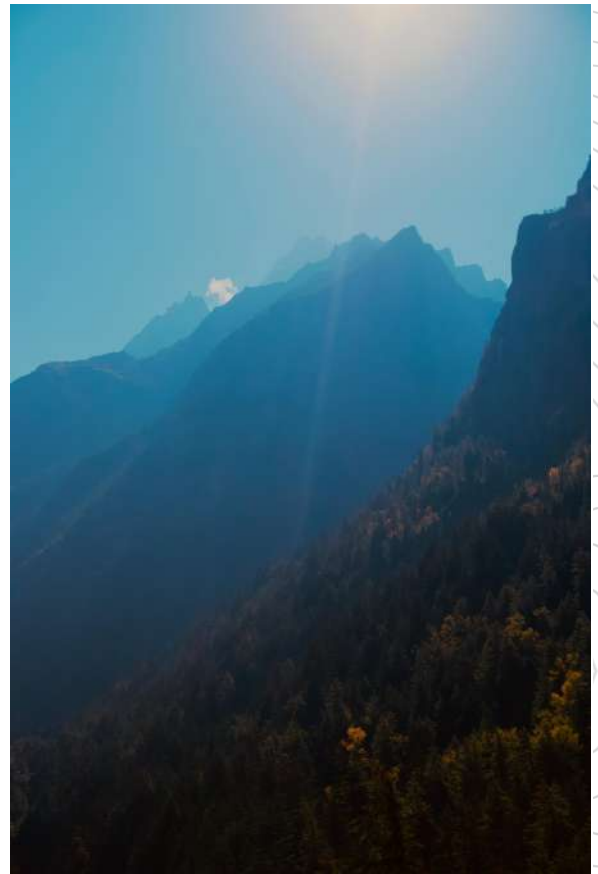
Ms. Aachal Khodape
TY Student

NEWSPAPER ART



Ms. Kanchan Bhagat
Teaching Assistant

PHOTOGRAPHY ART



UTTARAKHAND

Bhagirathi River, Yamunotri
Dham, Gangotri River Dham

Prathmesh Naidu

B. Tech Student

FACULTY PARTICIPATION

STTP / Workshop / Exhibition / FDP

Sr.	Name Faculty	Subject / Domain	Title	Duration
1	Prof. (Dr.) Sagar Shinde	Workshop	Emotional Intelligence	27/07/2024
		IFDP	AI For Sustainable Development	5/8/2024 To 9/8/2024
		STTP	Bridging Academia by Advancing Research and Teaching with AI and Machine Learning	1/7/2024 To 5/7/2024
		Workshop	Awareness about NEP 2020 Structure Implementation Workshop for Teachers and Administrative Staff 2024	2/7/2024
		FDP	Generative AI	07/10/2024 To 12/10/2024
		Webinar	System Thinking and Optimization	25/10/2024 To 26/10/2024
2	Mrs. Priyanka Vyas	STIP	Research Writing Proposal Writing Techniques to get funds for Projects and Systematic Process of Learning from Drafting so Patient Grant	07/10/2024 To 19/10/2024
3	Ms. Ultara Varade	FDP	Goal Computing	12 Weeks
		FDP	Navigating Digital Era Through Generative AI and Prompt Engineering	11/11/2024 To 15/11/2024
		STIP	Incorporating Universal Human Values in Technical Education	07/10/2024 To 11/10/2024
		FDP	Industry 40 Energy Sustainability and Climate Change	09/12/2024 To 14/12/2024
4	Mrs. Dipika Paranjape	Workshop	Managing Citations and References with Monkey Reference Manager	12/06/2024 To 14/06/2024
		Workshop	From Ideas to Publication Mastering Book and Paper Writing	16/11/2024
		FDP	Artificial Intelligence in Duta Science Applications	13/12/2024 To 19/12/2024
5	Ms. Pooja Tambe	FDP	Introduction to Internet of Things	Weeks
		FDP	Introduction to Machine Learning	8 Week
		Workshop	From Ideas to Publication: Mastering Book and Paper Writing	16/11/2024
6	Mr. Vaibhav Suryawanshi	FDP	Machine Learning and Artificial Intelligence	12/06/2024 To 19/08/2024
			Introductory to Internet of Things	12 Works
			Introduction to Machine Learning	Weeks
7	Mr. Santosh Varpo	FDP	Latest Trends and Techniques in Digital Twin	07/00/2024 To 12/10/2024
8	Mrs. Komal Rajgude	Workshop	Data Visualization and Analytics' with Excel, Power BI, Tableau and Generative AI	5/7/2024 To 11/7/2024
		STIP	Applications of AI-ML-DL in Product Life Cycle Design and Management	22/07/2024 To 26/07/2024
		FDP	Artificial Intelligence is Data Science Applications	13/12/2024 To 19/12/2024
9	M. Kandhan Bhagat	Workshop	Data Visualization and Analytics' with Excel, Power BI, Tableau and Generative AI	05/07/2024 To 11/07/2024

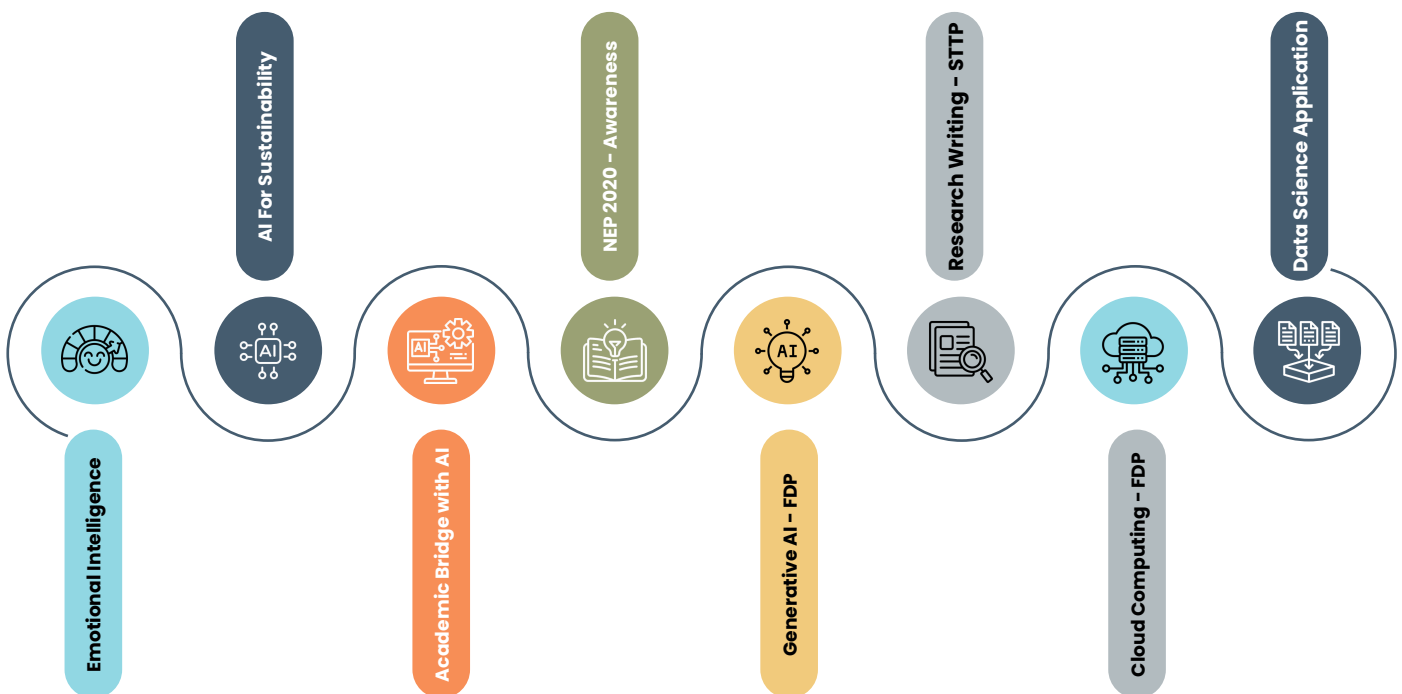
FACULTY CORNER



FACULTY CORNER



CSE - AI Department faculty enhance the skills and knowledge of faculty members in various domains, ensuring they stay updated with the latest trends and technologies in education and research.



STUDENT ACHIEVEMENT

Swayam NPTEL



Sr.	Class	Name of the Student	Course Name	Duration	Certificate Type
1	B.Tech	Princy Hareshkumar Patel	Big Data Computing	8 week	Elite+Silver (5% Topper)
2	TY	Priya Dilbahadur Ram	Python for Data Science	4 week	Elite
3		Sneha Anil Wani	Data Structure and Algorithms using Java	12 week	
4		Tanushree Dasharathi Behera	Python for Data Science	4 week	
5		Manasi Sadashiv Choudhari	Cloud Computing	12 week	
6		B. Tech	Sanjay Dnyanoba Halle	Python for Data Science	
7	TY	Manasi Gaikwad	Big Data Computing	8 week	Successfully Completed
8		Ankita Yatish Kakade	Cloud Computing	12 week	
9		Shweta Dadabhau Padir	Data Structure and Algorithms using Java	12 week	
10		Omprakash Sidram Bidve	Cloud Computing	12 week	
11		Sumit Atul Borse	Introduction to Internet of Things	12 week	
12		Prathamesh Kudale	Ethical Hacking	12 week	
13		Stephen Mhetre	Data Base Management System	8 week	
14		Atharva Hanumant Admile	Cloud Computing	12 week	
15	B. Tech	Raj Ripubhanjan Sharma	Probability Theory for Data Science	12 week	

Elite

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

This certificate is awarded to
PRINCY HARESHKUMAR PATEL
for successfully completing the course

Big Data Computing

with a consolidated score of **83** %

Online Assignments	22.92/25	Proctored Exam	60.46/75
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Total number of candidates certified in this course: **5564**

Aug-Oct 2024
(8 week course)

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

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

Elite

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

This certificate is awarded to
SNEHA ANIL WANI
for successfully completing the course

Data Structure and Algorithms using Java

with a consolidated score of **67** %

Online Assignments	22.28/25	Proctored Exam	44.5/75
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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

FACULTY ACHIEVEMENT

Swayam NPTEL



Sr.	Name of the Faculty	Course Name	Duration	Certificate Type
1	Mr. Vaibhav Suryawanshi	Introduction to Internet of Things	8 week	Elite + Silver
		Introduction to Machine Learning	12week	Elite + Silver
2	Ms. Pooja Tambe	Introduction to Internet of Things	8 week	Elite + Silver
		Introduction to Machine Learning	8 week	Elite + Silver
3	Dr. Sagar Shinde			Elite + Silver
4	Ms. Uttara Varade	Cloud Computing	12 week	Successfully Completed



SPECIAL ACHIEVEMENT / RECOGNITION



DR. SAGAR SHINDE
awarded as
HoD of the Year 2024



DR. SAGAR SHINDE
Elevated to
Senior IEEE Member

STUDENT ACHIEVEMENT



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

This certificate is awarded to
PRINCY HARESHKUMAR PATEL
for successfully completing the course

Big Data Computing

with a consolidated score of **83** %

Online Assignments	22.92/25	Proctored Exam	60.46/75
--------------------	----------	----------------	----------

Total number of candidates certified in this course: **5564**

Aug-Oct 2024
(8 week course)

Indian Institute of Technology Kanpur

Swayam

TOP TOPPER 5%

MS. PRINCY PATEL
Topper of 5% in the course

MS. SHRUTI JADHAV
Paid Internship



Nutan College of Engineering and Research (NCER)
Department of CSE - Artificial Intelligence

Heartiest Congratulations

Shruti D Jadhav
B. Tech CSE-AI

B. Tech CSE-AI 2024-25 Batch Student For Her Selection in Syngenta For The Internship With a Stipend of Rs. 30,000 per month.

syngenta

www.ncerpune.in

MR. OMKAR HANKARE
B.Tech student group (2023 - 24) has presented a paper in 1st International IEEE conference on Applied Artificial Intelligence and Machine Learning, from 30th to 31st August 2024



1st INTERNATIONAL CONFERENCE ON APPLIED ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
30th & 31st August, 2024

Certificate

This is to certify that, Mr./Ms./Dr. Omkar Hankare, PCETs - NMVPMs Nutan College of Engineering and Research , Pune , Maharashtra, India, has presented a paper in the **1st International conference on Applied Artificial intelligence and Machine Learning** organized by the Department of CSE, IT, CSE (AI&ML), CSE (DS) and AI&DS at Vignan Institute of Technology and Science, Hyderabad, Telangana, India , held on 30th & 31st August 2024.

Paper Title: **Swift - AI Approach for AI-Generated Lyrics, Portraits, and Avatar Dance Imitation.**

VIGNAN Institute of Technology & Science

RESEARCH AND PUBLICATION

International Level

Sr.	Faculty	Title Paper	Conference Journal Name	Academic Year
1	Dr. Sagar Shinde	Human activity recognition using start phone for physical activity analysis	Multidisciplinary Science Journal	Aug. 2024
		A Comprehensive Framework for Facial Emotion Detection using Deep Learning	International Journal of Perform ability Engineering	Aug. 2024
		Technical analysis and performance evaluation of retrofitted electric Auto Rickshaws (E - TAR) in rural India	Multidisciplinary Science Journal	Feb. 2024
		Advanced adaptive cruise control and chide to vehicle communication using LIDAR	Multidisciplinary Science Journal	2024
		Breaking the silence Innovation in Wake word activation	Multidisciplinary Science Journal	Dec. 2024
		Emotion Identification using EFG in Reduced Electrodes and Time Frequency Parameters	Signal International Journal of Perform ability Engineering	Dec. 2024
		Identification of take currency using soft computing	Multidisciplinary Science Journal	2024
		Abortion Detection and Monitoring for Empowering Equality Through the Integration of Biometric and Artificial Intelligence	Springer Nature	
Image Processing - Toxicology : A Systematic Review				
2	Mrs. Priyanka Vyas	Crop wine Advanced Machine Learning Powered Crop monitoring System	International Journal of All Research Education and Scientific Methods IUARESM	Dec. 2024
3	Mrs. Priyanka Vyas	Swill AI Approach for A - Generated Lyrics Portraits and Avatar Dance Imitation	Ist international conference on Applied artificial intelligence and machine learning	Aug. 2024
4	Ms. Uttara Varade	The Bull Reckoner - Enhancing Bail Decision with ML Algorithms	International Conference on Emerging Technologic and Computing (ICETC 2025). 2025	Dec. 2024



RESEARCH AND PUBLICATION

Under Multidisciplinary Science and IJPE Journal (Scopus Indexed Journal)

1st INTERNATIONAL CONFERENCE ON APPLIED ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
30th & 31st August, 2024



Certificate

This is to certify that, Mr./Ms./Dr. **Priyanka Vyas, PCETs - NMVPMs Nutan College of Engineering and Research, Pune, Maharashtra, India**, has presented a paper in the **1st International conference on Applied Artificial Intelligence and Machine Learning** organized by the Department of CSE, IT, CSE (AIMML), CSE (DS) and AIRDS at **Vignan Institute of Technology and Science, Hyderabad, Telangana, India**, held on 30th & 31st August 2024.

Paper Title: **Swift - AI Approach for AI-Generated Lyrics, Portraits, and Avatar Dance Imitation.**



VIGNAN
Institute of Technology & Science

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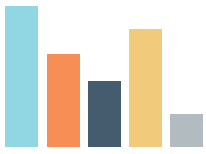
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