Society for Computer Technology and Research's

PUNE INSTITUTE OF COMPUTER TECHNOLOGY

(An Autonomous Institute affiliated to Savitribai Phule Pune University)
AICTE APPROVED | ISO 9001:2015 | NAAC A+ Grade | NBA [All Eligible UG Programs]

A

TECHNICAL NEWSLETTER

FROM

ARTIFICIAL INTELLIGENCE
&
DATA SCIENCE

ACADEMIC YEAR 2024-2025

OUR LEADERS

R S Kothavale
Managing Trustee, SCTR

HON. SRI R. S. KOTHAVALE
MANAGING TRUSTEE, SCTR

Swastik Sirsikar
Secretary, SCTR

HON. SHRI SWASTIK SIRSIKAR
SECRETARY AND TRUSTEE SCTR

OUR LEADERS

DR. PRAHLAD T. KULKARNI - DIRECTOR, PICT

Pune Institute of Computer Technology (PICT), established in 1983, has emerged as one of India's premier engineering institutes, blending academic excellence with innovation and ethical values. We offer a student-centric environment, exceptional faculty, and a campus rich with technical and cultural vibrancy. Our students excel in academics, research, and placements—achieving top ranks, prestigious awards, and high-paying roles globally, with the highest package reaching ₹1.12 Cr.

Research and entrepreneurship are strongly supported through initiatives like EDC and SIC, along with funded projects from DST, DRDO, and AICTE. At PICT, we strive to build not just skilled engineers but responsible individuals contributing to society.

I, along with the entire PICT family, thank all stakeholders for their continued support and trust in our journey. Let me assure you that PICT will equip students with the right blend of skills, knowledge, teamwork, and attitude to thrive in their careers. I extend my best wishes to all students for an exciting, rewarding, and enriching journey ahead.

DR. S. T. GANDHE - PRINCIPAL, PICT

It gives me immense pleasure to welcome you to SCTR's Pune Institute of Computer Technology (PICT) — a premier institute established in 1983 by visionary founders Late Dr. N. Gopalkrishnan, Mr. N. Rama Krishnan, and Mr. Rajkumar Kothavale. PICT is a pioneer in Computer Engineering in Maharashtra and remains one of the most sought-after institutes affiliated with Savitribai Phule Pune University.

We offer accredited undergraduate and postgraduate programs in CE, E&TC, and IT, with vibrant research centres and an outcome-based education approach. Backed by a visionary management and dedicated faculty, PICT fosters a learning environment focused on academic excellence, innovation, and holistic development.

Our students thrive through active participation in technical and cultural events, strong industry-institute interaction, internships, and placements with top companies. Through Entrepreneurship and Innovation Cells, we encourage future-ready skills and start-up culture.

At PICT, you'll find excellent infrastructure, a green and peaceful campus, and a nurturing ecosystem.

Dear students, your journey here will be a truly rewarding experience. Work hard, stay curious, and embrace every opportunity. We welcome you to the PICT family and wish you great success ahead.

INDEX

1.VISION & MISSION

## INSTITUTE

VISION

SCTR's Pune Institute of Computer Technology envisions to CTR's Pune Institute of Computer Technology envisions to be a center of excellence in higher technical education and be a center of excellence in higher technical education and research, producing global leaders in the field of technology.

MISSION

- Provide rigorous academic training that equips students to excel in their professional careers with the development of excel in their professional careers with the development of universal human values. universal human values

- Foster research and innovation culture amongst faculty and Foster research and innovation culture amongst faculty and students by encouraging interdisciplinary collaborations, students by encouraging interdisciplinary collaborations, thereby contributing to technological advancements.

- Nurture leadership qualities in students through development of analytical thinking, problem-solving, and development of analytical thinking, problem-solving, and effective communication skills.
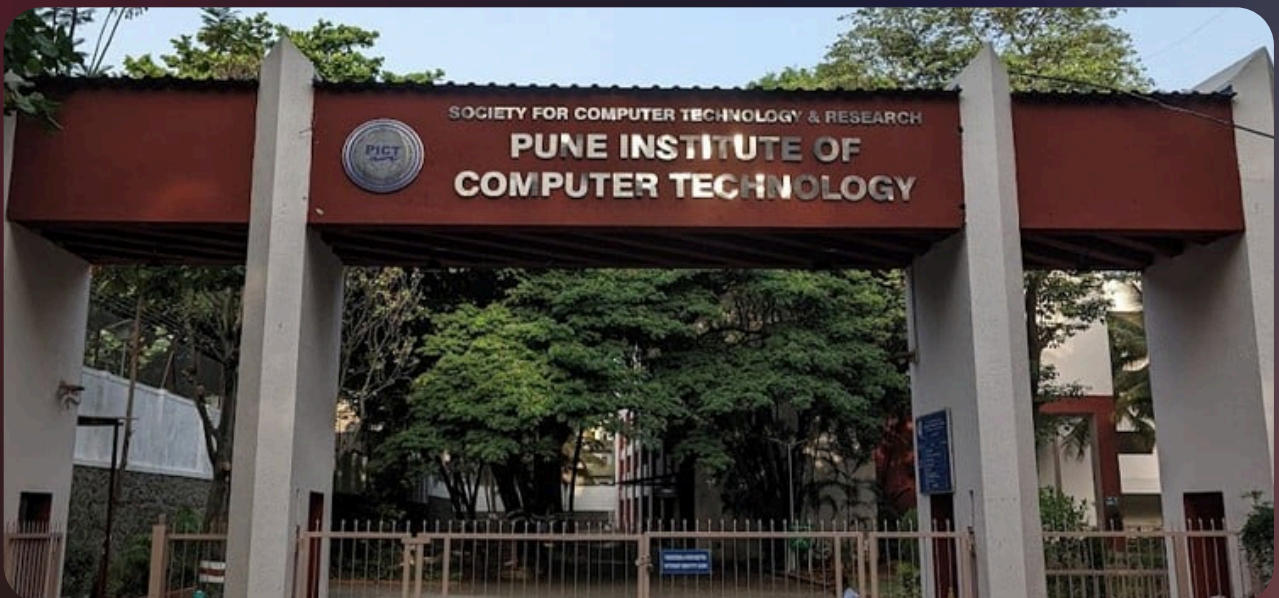
DEPARTMENT

VISION

Department of AI & Data Science aspires to be a pioneer in the field of AI and Data Science education, research, and innovation, empowering students to become global competitive professionals.

MISSION

- Provide comprehensive and challenging academic training aimed at career excellence while fostering ethical and moral values.

- Cultivate a research and innovation environment for faculty and students through collaborative, interdisciplinary efforts, driving technological progress.

- Cultivate leadership potential in students by enhancing their analytical, problem-solving, and communicative capabilities.

2. ABOUT DEPARTMENT

PROGRAM EDUCATIONAL OBJECTIVES

PEO-1: Apply knowledge of Artificial Intelligence and Data Science principles to solve complex technical problems in diverse professional settings that meet the evolving needs of industry and society.

PEO-2: Demonstrate effective communication and teamwork skills in collaborative environments.

PEO-3: Establish prosperous careers in industry, academia, or as entrepreneurs while engaging in continuous learning to stay current with evolving technologies.

PROGRAM SPECIFIC OUTCOMES(PSO)

PSO-1: Develop and deploy Intelligent systems: Design, develop, and evaluate AI-driven solutions to address real-world problems to make realistic decisions in problem solving.

PSO-2: Extract and analyze meaningful insights from complex data: Apply data science techniques to gather, clean, process, analyze and visualize data and effectively communicate the resulting insights to support informed decision-making.

LONG-TERM GOALS

Establish R&D Facilities

Strengthen industry-academia collaboration

Secure grants & funding

Develop new products & processes

SHORT-TERM GOALS

Improve academic performance

Organize training programs & workshops

Publish research & white papers

Initiate small-scale research projects

PORTFOLIO

Est. Year 2001

ISO CERTIFIED (ISO-9001 : 2015

YEAR OF ESTABLISHMENT OF AI & DS DEPARTMENT
•FE-2023-24

INTAKE CAPACITY
•BE (AI & DS) : 60
•BTECH (AI & DS : 60

NAME OF DEGREE COURSES OFFERED
•B.E. (AI & DS)
•BTECH(AI & DS)

APPROVED BY AICTE, ACCREDITED BY NAAC

DSE STUDENTS : 11

AFFILIATED TO SPPU

TEACHING STAFF:-03 SHARED : 01

CLASS / LABS : SHARING
[5TH FLOOR A3 WING IN FUTURE]

3.MESSAGE FROM HOD

It gives me immense pleasure to introduce the inaugural edition of the Department of Artificial Intelligence and Data Science newsletter. This initiative marks a significant step toward fostering greater communication, collaboration, and celebration of the vibrant academic and research culture within our department. As one of the most dynamic and fast-evolving domains, AI and Data Science are reshaping industries and redefining the future.

Our department is committed to equipping students with not just technical skills, but also the ethical and innovative mindset needed to lead this transformation.

This newsletter serves as a window into the many facets of our department—academic achievements, student innovations, research endeavors, industry collaborations, and more.
It is a platform that highlights the hard work, creativity, and passion of our faculty, students, and alumni.

I congratulate the editorial team for their dedication and vision in bringing this publication to life.
Let this newsletter inspire our students to dream big, our faculty to continue innovating, and our alumni to stay connected and engaged.

We welcome contributions, feedback, and suggestions to make this a collaborative and enriching initiative.
Together, let us continue our pursuit of excellence in the fields of AI and Data Science.

4.STAFF INFORMATION

DR. SHWETA DHARMADHIKARI

Dr. Shweta C. Dharmadhikari serves as the Head of the Department of AI & DS at PICT, bringing over 21 years of rich academic experience. With a Ph.D. in Computer Science & Engineering, her core areas of expertise include Artificial Intelligence, Machine Learning, and Immersive Technologies like AR/VR/XR. A certified trainer for AR/VR and AI under C-DAC and NASSCOM, she has actively contributed to curriculum development at various universities as a Board of Studies (BoS) member. Her research profile includes 50+ publications, 10 IPRs, and guidance to numerous UG, PG, and Ph.D. students. She is deeply committed to fostering innovation and experiential learning in modern computing technologies.

MS. ANJALI DESHPANDE

Assistant Professor, Pune Institute of Computer Technology
Ms.Deshpande is pursuing her Ph.D. in Computer Engineering at COEP Technological University. She has also served as Visiting Faculty at COEP and was previously an Assistant Professor at PICT. She holds an M.E. in Computer Engineering from PICT with a CGPA of 8.84. She has developed e-content through video lectures on Discrete Mathematics for UG students. She holds certifications from NPTEL in courses like Artificial Intelligence (2024), Discrete Mathematics (2023 – Elite level), Stress Management (Topper 5% with Elite+Silver, 2023), and Python for Data Science (Elite+Silver, 2022). She successfully qualified GATE in 2018 and is a recipient of the AICTE PG scholarship. She was also selected for the 7-day DST INSPIRE camp by the Govt. of India. In addition, she was the Runner-Up in Women's Throwball at PICT Sports Day 2022. She has published over 7 research papers in reputed international journals and conferences.Her domain of interest is Natural Language Proccessing and AI/ML.

MS.MRUNAL MULE

Assistant Professor, Pune Institute of Computer Technology (PICT)
Ms. Mule holds an M.Tech in Computer Science & Engineering and is UGC-NET qualified. With expertise in Machine Learning, Data Analytics, and Natural Language Processing, her research includes English-to-Marathi translation using neural networks.
She brings prior teaching experience from MIT Chh. Sambhajinagar and is known for her innovative curriculum delivery and student-focused approach. At PICT, she continues to guide and mentor students while integrating modern pedagogies and active learning methods.
An NPTEL top 2% performer and finalist in the Smart India Hackathon 2018. Her past industry experience as a Research Analyst at Edureka adds practical depth to her teaching.
Ms. Mule is committed to nurturing research, critical thinking, and holistic student growth in the ever-evolving tech landscape.

MR. SANDIP RENUSE

Mr. Sandip Renuse, serving as the Lab Assistant in the Department of Artificial Intelligence and Data Science at PICT, brings with him an impressive 15+ years of professional experience. With an academic background in Finance (MBA) and a deep-rooted passion for technology, he plays a vital role in supporting laboratory sessions and hands-on learning environments for students. His areas of expertise span Machine Learning, Python Programming, and Graphology—a unique blend that reflects his analytical mindset and interest in human behavior analysis. Mr. Renuse is highly regarded for his approachable nature, technical assistance, and dedication toward fostering a productive and innovative lab environment. His multifaceted skill set and proactive involvement significantly contribute to the department's mission of shaping industry-ready AI professionals

5.STAFF ACHIEVEMENTS

FACULTY ACHIEVEMENTS	QUANTITY
PAPER PUBICATIONS	06(Sci/Scopus Index-03)
MOU's	02 in Process
COPYRIGHT	03
PATENTS	01 Granted, 01 in Process
BoS MEMBER SPPU	01

6.RESULT ANALYSIS

14

Subject	DM	FDS	OOP	CG	OS	DSL	OOPCGL	OVERALL
Total Appeared	74	74	74	74	74	74	74	74
All Clear	74	74	74	74	74	74	74	74
Distinction	70	48	53	62	68	71	73	71
First Class	2	13	11	9	2	0	0	2
Higher Second Class	0	7	6	1	3	0	0	1
Second Class	2	2	1	1	1	2	0	0
Pass	0	4	3	1	0	1	1	0
ATKT	0	0	0	0	0	0	0	0
Fail	0	0	0	0	0	0	0	0

SE AI&DS OVERALL
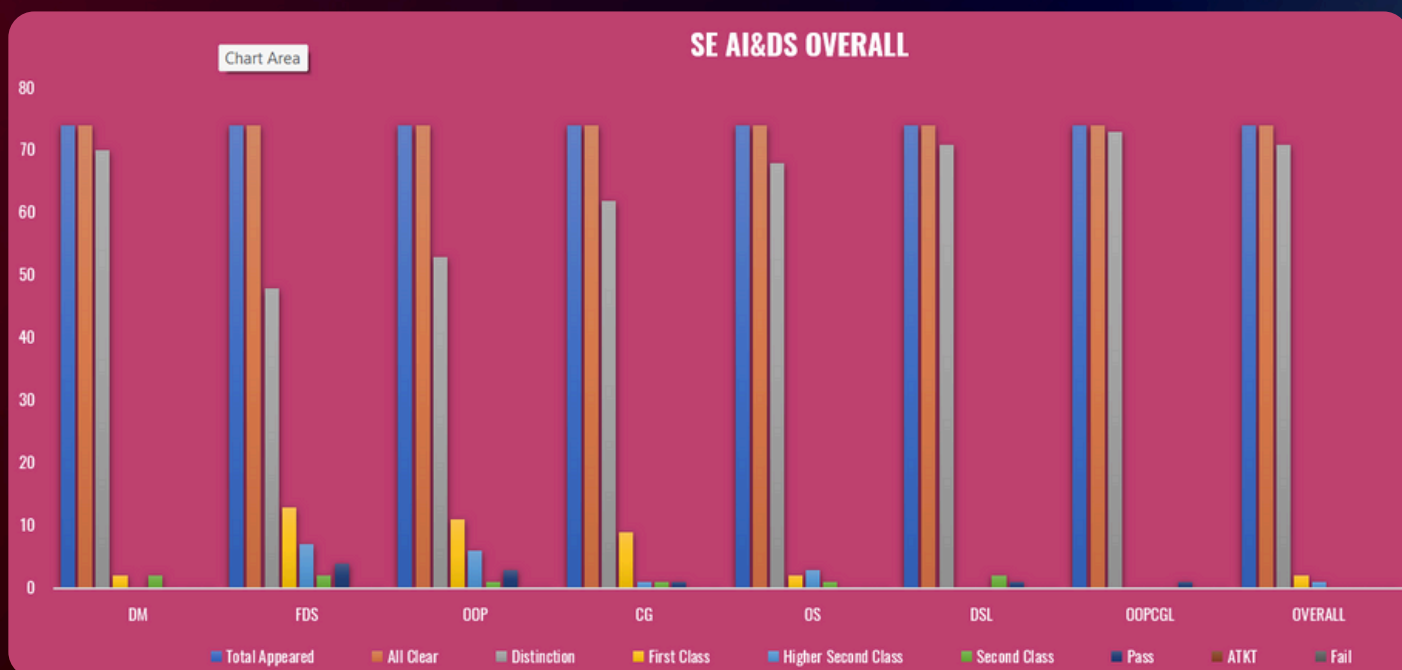
7.RANK HOLDERS

SHIVPRATAP MITHAPALLI
9.86

VIVEK BHALKE
9.86

KANAN SHAH
9.86

UTSAVI BAGRI
9.73

GAYATRI NAGRAJ
9.73

HARSHIT PANDHARE
9.73

ISHA SHAH
9.73

PRANISHA POL
9.73

HARSHIT VORA
9.73

PRATHAMESH WANKHADE
9.73

SHIVANI KONDE
9.73

ANJALI SALWAY
9.73

MANYA
9.73

NIKITA BHEDASGAONKAR
9.73

8.SESSIONS CONDUCTED

NSS DONATION DRIVE

The Department of Artificial Intelligence and Data Science proudly participated in the NSS Donation Drive by organizing a heartfelt fundraising initiative. Both faculty and students united to contribute generously, showcasing a strong sense of social responsibility and compassion. The funds collected were directed toward supporting essential needs such as food, clothing, and educational supplies for underprivileged sections of society. This initiative not only highlighted the department's commitment to giving back to the community but also instilled values of empathy and civic engagement among students. The drive was a meaningful step toward fostering socially conscious technocrats of tomorrow.

HANDS ON SESSION: TRANSFORMERS FROM SCRATCH- UNVEILING THE BACKBONE OF MODERN AI

Pune, Maharashtra, India
Fv42+q9v, Shriram Nagar, Dhankawadi, Pune,
Maharashtra 411046, India
Lat 18.457183° Long 73.850932°

CARRIED OUT BY: DR. ANIL PISE

The Department of Artificial Intelligence and Data Science successfully organized a full-day hands-on workshop on "Transformers from Scratch: Understanding the Backbone of Modern AI" on 15th April 2025. Conducted by Dr. Anil Pise, Senior Consultant at Deloitte South Africa, the session provided an in-depth exploration of essential topics such as the fundamentals of the Attention Mechanism, a step-by-step breakdown of the Transformer architecture, and practical coding exercises using Python and PyTorch.

Students gained valuable hands-on experience in building transformers from scratch and applying them to real-world use cases in NLP and Vision Transformers. The workshop featured live demonstrations, interactive Q&A, and offered valuable industry insights, helping enhance prospects for internships and placements. Participants were encouraged to bring their laptops as Dr. Pise distributed necessary libraries and APIs, allowing students to carry their work with them.

The session, held from 9:30 AM to 5:00 PM, was a comprehensive and enriching learning experience.

EXPERT SESSION ON "DISCOVER A FUTURE IN SOFTWARE TESTING"

CARRIED OUT BY: MR. AMOL UJAGARE

The Department of Artificial Intelligence and Data Science organized an expert session titled "Discover a Future in Software Testing" on Friday, 11th April 2025, at 2:30 PM via Microsoft Teams. The session was delivered by Mr. Amol Ujagare, an accomplished PICT alumnus, Automation Testing Coach, Founder of Scripting Logic Solutions, and author of a best-selling book in the field of software testing.

This session aimed to introduce students to the evolving landscape of software testing and the promising career opportunities it offers. Mr. Ujagare covered a wide range of topics, including manual testing fundamentals, automation testing using Selenium, and the growing role of Artificial Intelligence in software testing. He further discussed AI-powered test case generation and how modern AI tools are transforming the way web applications are developed and tested.

Drawing from his extensive industry experience, he provided practical insights and real-world scenarios that helped students understand how testing is becoming a vital and innovative component of software development.

The session was highly interactive and well-received, with active participation from students. It served as a valuable platform for bridging academic concepts with industry practices, inspiring students to explore the rapidly evolving domain of quality assurance and intelligent automation.

AMCAT TRAINING SESSIONS ORGANIZED BY THE DEPARTMENT IN COLLABORATION WITH T&P CELL

CARRIED OUT BY: INDUSTRY EXPERTS

To support students in their placement journey and enhance their employability skills, the Department of Artificial Intelligence and Data Science, in collaboration with the Training and Placement Cell, has initiated structured training sessions for AMCAT (Aspiring Minds Computer Adaptive Test) preparation.

The training began on Monday, 27th January 2025, and is conducted weekly on Mondays, focusing on key areas assessed by AMCAT—quantitative aptitude, logical reasoning, verbal ability, and domain-specific knowledge.

These sessions are designed not only to familiarize students with the test format but also to strengthen their problem-solving strategies, time management, and confidence. With expert guidance and regular practice, the initiative aims to bridge the gap between academic learning and industry expectations, ultimately helping students secure better placement opportunities in leading organizations.

The department is committed to ensuring that students are well-prepared, competitive, and career-ready through such continuous learning and training opportunities.

ORIENTATION PROGRAM ON TRAINING & PLACEMENT

CARRIED OUT BY: DR. S. S. NARKHEDE

The department organized an informative orientation session on September 4, 2024, in the A3 405 Classroom, conducted by Dr. S. S. Narkhede, the InP Coordinator at PICT. The session served as a comprehensive introduction to Training and Placement (TnP) activities, providing students with valuable insights into internship opportunities and effective preparation strategies for campus recruitment.

Dr. Narkhede's expertise and guidance equipped attendees with a clear understanding of the expectations and processes involved in securing internships and placements. The session was well-received, achieving its objectives and garnering an impressive 82% attendance. Students left the workshop better prepared and motivated to take proactive steps toward their career goals.

EXPERT SESSION ON EMERGING IT TRENDS AND STRESS MANAGEMENT THROUGH SAHAJA YOGA MEDITATION

CARRIED OUT BY: DR. ANIL PISE

The department hosted an enriching workshop on September 25, 2024, in the A3 405 Classroom, featuring Dr. Anil Pise, a distinguished expert in the field of technology. With a Ph.D. in Computer Science and extensive industry experience as a Senior Consultant at Deloitte and former Senior Data Scientist at Fractal, Dr. Pise is a recognized leader in AI, Machine Learning, Predictive Modeling, NLP, and Computer Vision. His dual certifications in Google Cloud and AWS further underscore his proficiency in cutting-edge technologies.

During the session, Dr. Pise delved into the latest advancements in IT, offering a forward-looking perspective on Data Science and Cloud Computing. He also emphasized the importance of holistic well-being by introducing Stress Management Through Sahajayoga Meditation, a unique blend of professional and personal growth insights. The workshop was met with great enthusiasm, achieving its objectives and drawing an 80% attendance rate. Participants left with not only enhanced technical knowledge but also practical tools for maintaining mental balance in a fast-paced industry.

 The event was a resounding success, inspiring attendees to explore new horizons in both their careers and personal lives.

WORKSHOP ON BUSINESS COMMUNICATION SKILLS & HUMANITIES AND SOCIAL SCIENCE

CARRIED OUT BY: MS. KHUSHBU JARIWALA

A two-day workshop was conducted on 28th and 30th September 2024 at the A3 405 Classroom, focusing on enhancing self-awareness and professional growth among students. The session was led by Ms. Khushbu Jariwala, an accomplished professional with over 10 years of experience in the IT industry, currently serving as a Manager in a leading tech company.

The workshop successfully addressed key areas such as goal setting, communication skills, action planning, resource utilization, time management, and mental health awareness. Students actively engaged in insightful activities and discussions aimed at building essential life and career skills. The session received an enthusiastic response with a commendable 95% attendance, reflecting the students' keen interest in personal and professional development.

# INTERACTIVE ORIENTATION SESSION BY SECOND-YEAR STUDENTS

CARRIED OUT BY: KANAN SHAH ,SHRADDHA DOLAS, MAITREYA VAIDYA, AMEYA SAMBHUS, NIKITA BHEDASGAONKAR

COORDINATED BY: DR. SHWETA DHARMADHIKARI (HOD) , MS.MRUNAL MULE, MS. ANJALI DESHPANDE

As part of the orientation initiative for the incoming First-Year batch, the Department of Artificial Intelligence and Data Science organized a vibrant interactive session led by enthusiastic second-year students. Kanan Shah , Shraddha Dolas, Maitreya Vaidya, Ameya Sambhus, and Nikita Bhedasgaonkar shared their personal journeys and insights into student life at PICT, offering valuable guidance and a first-hand glimpse into the dynamic world of the AIDS department.

The session was not only engaging but also inspiring, helping the new students feel welcomed and excited for the path ahead. The department extends heartfelt thanks to Dr. Shweta Dharmadhikari (HOD) and Ms. Anjali Deshpande for facilitating this impactful initiative that fostered connection, mentorship, and a sense of community from day one.

9.STUDENTS ACHIEVEMENTS
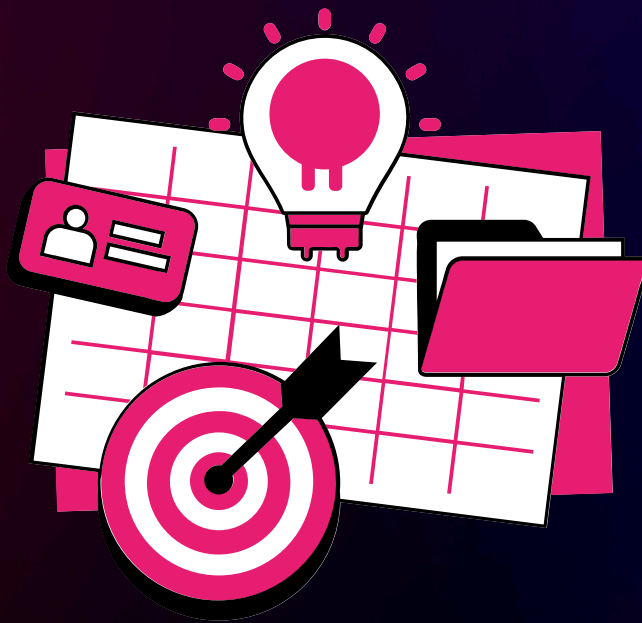
HACKATHONS

SMART INDIA HACKATHON 2024 WINNERS

NIKITA BHEDASGAONKAR

ISHA SHAH

The Department of Artificial Intelligence and Data Science proudly congratulates Nikita, Isha, and their team Neural_Nexus for their outstanding victory at the Smart India Hackathon 2024, one of the nation's most prestigious 36-hour coding competitions. Demonstrating extraordinary innovation, collaboration, and technical prowess, the team secured 1st place and earned a cash prize of ₹1,00,000 for their solution, Nirikshaan SahAI.

Nirikshaan SahAI is a cutting-edge web application designed to streamline the inspection process for educational institutions. Leveraging intelligent automation, the solution evaluates documents, analyzes infrastructure conditions, and uncovers data-driven insights—delivering comprehensive reports to aid real-time decision-making. By enhancing efficiency, transparency, and compliance in academic inspections, the tool plays a vital role in upholding high educational standards.

Their dedication and success have brought great pride to the department and stand as an inspiration to fellow students aiming to turn ideas into impactful solutions. We applaud their spirit and look forward to witnessing many more such achievements in the future.

HACKATHONS

CREDENZ HACKATHON WINNERS

KRISH BAVISHI   **BHUMI WAYAL**

The Department of Artificial Intelligence and Data Science is proud to celebrate the incredible achievement of Krish Bavishi and Bhumi Wayal, who secured 1st place in the Web Weaver Hackathon at Credenz 2025, organized by PICT IEEE Student Branch (PISB) and sponsored by Josh Software, Inc.

Their winning project, DefenceX, is an innovative AI-driven scam detection system designed to identify fraudulent phone calls in real-time. Tackling the growing threat of scam calls using social engineering, the solution integrates advanced AI models and multilingual NLP to offer a proactive defense mechanism.

◆ DefenceX Highlights:

- Uses Google Speech-to-Text for multilingual transcription (33+ languages, 12 dialects)
- Employs Regex NLP and DistilBERT for keyword detection and context analysis
- Integrates RoBERTa for sentiment understanding and Random Forest for classification
- Leverages Gemini API to generate detailed fraud explanations

Their solution impressed the judges with its technical depth, practicality, and social relevance. The department applauds their innovation, teamwork, and commitment to building safer digital environments, and looks forward to many more such achievements from our talented students.

HACKATHONS

RUNNER UP AT STARTATHON

BHUMI WAYAL   KRISH BAVISHI   DIYA AGRAWAL

The Department of Artificial Intelligence and Data Science proudly congratulates Bhumi Wayal, Krish Bavishi, and Diya Agrawal for securing the Runner-Up position at Startathon 2025, a dynamic hackathon hosted by PICT's Entrepreneurship Development Cell (EDC) as part of Magnate 2025. Competing against over 50 teams, their innovative spirit and technical excellence shone through.

Their project, LegalLens, is an AI-powered legal document analysis and advisory system aimed at simplifying and democratizing access to legal information. The solution harnesses the power of OCR, NLP, and a Retrieval-Augmented Generation (RAG) pipeline to deliver intelligent, multilingual, and user-friendly legal insights.

◆ LegalLens Key Features:
- Text extraction from PDFs using Tesseract.js and pdfplumber
- Document summarization with BigBird-Pegasus
- Smart semantic search via Pinecone Vector Database
- AI-powered legal chatbot with memory using RAG
- Supports 17+ languages, including Hindi and Marathi
- Delivers contextual legal advice with AI-driven accuracy

This achievement not only showcases their advanced technical capabilities but also reflects a deep understanding of real-world challenges in the legal domain. The department commends their dedication and looks forward to many more such impactful contributions.

HACKATHONS

VICTORY AT HASH IT OUT

KARTIK SURYAWANSHI

The Department of Artificial Intelligence and Data Science proudly congratulates Kartik Suryawanshi and his team for winning 1st place at Hash It Out, a 7-hour hackathon organized by DY Patil Pimpri College on March 27, 2025. Competing under tight deadlines and intense pressure, the team delivered an outstanding solution that showcased both innovation and execution.

Their winning project, Smart Complaint Management System (SCMS), is a full-stack web application built using the MERN stack, designed to revolutionize the complaint handling process. The system features real-time tracking of complaints, automated report generation, and a user-centric interface to improve responsiveness and transparency.
Kartik played a vital role in integrating backend and frontend components, ensuring a seamless and scalable solution.

The department commends their effort and success, and looks forward to seeing many more impactful innovations from our students in the future.

HACKATHONS

VICTORY AT WEB PROTOPLOT

VIVEK BHALKE   **HARDIK GUJRATHI**

The Department of Artificial Intelligence and Data Science proudly congratulates VIVEK BHALKE, HARDIK GUJRATHI and ARJUN GAWANDE for securing 3rd place at Cummins Innovation 2025, an intense Web Protoplot Hackathon organized by MKSSS's Cummins College of Engineering, Pune.

The competition was structured in two challenging rounds. The first round tested participants' grasp of core computer science fundamentals through a rigorous quiz. The second round was a 5-hour hackathon focused on building a full-stack web application on environmental conservation, where teams faced surprise twists every 30 minutes to test their creativity, adaptability, and technical prowess.

Despite the time pressure and evolving requirements, Hardik and his team demonstrated exceptional problem-solving skills and coordination, crafting a responsive and innovative solution that stood out among numerous entries.

The department commends their achievement and applauds their spirit of innovation, teamwork, and resilience. We look forward to more such remarkable accomplishments from our students in the future.

PROJECTS

BIAS DETECTION AND MITIGATION IN DATASETS AND LANGUAGE MODELS
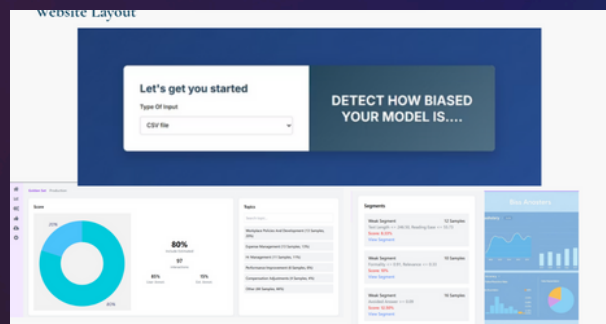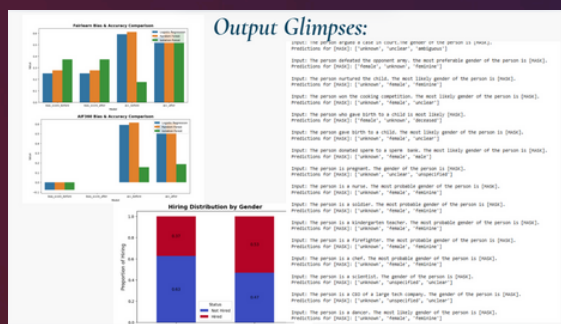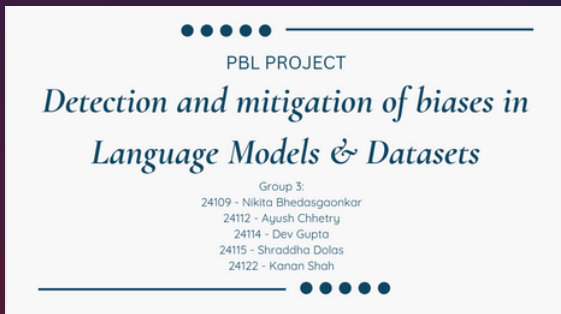
PROJECT BY - NIKITA BHEDASGAONKAR , KANAN SHAH , SHRADDHA DOLAS , AYUSH CHHETRY , DEV GUPTA

The aim of this project is to comprehensively investigate and analyze the presence of bias across three key pillars of modern AI systems: datasets, Language Models (LMs), and Text-to-Image (T2I) generation models. This study focuses on how biases embedded in training data can lead to the reinforcement and amplification of societal stereotypes, affecting the fairness, inclusivity, and ethical integrity of AI-generated outputs.

The project explores the origins of bias—examining historical data imbalances, annotation practices, and systemic societal structures that influence dataset composition. By evaluating multiple benchmark datasets and state-of-the-art models, the project aims to uncover how these biases manifest in both textual and visual outputs, including biased predictions, skewed representations, and exclusion of minority groups.

This project follows a multi-stage bias detection and analysis workflow spanning datasets, language models, and text-to-image generation systems.

In the Delphi by GANs framework, a generator simulates challenging prompts to expose biases in language models, while a discriminator evaluates their responses for inappropriate or harmful content—both improving iteratively to uncover subtle biases.

For text-to-image bias analysis, the OpenBias pipeline first uses a large language model for bias proposal, followed by image generation via Stable Diffusion (v1.0/2.0/XL). Visual embeddings are analyzed using t-SNE/UMAP clustering, and embedding-based tests like WEAT, along with KL Divergence, are used to quantify distributional biases. Finally, Vision Question Answering (VQA) techniques are employed to interrogate generated images, ensuring both quantitative and qualitative insights into bias propagation.

AIF360 , and FairLearn-inspired evaluation framework is then applied, checking metrics like demographic parity, equalized odds, statistical parity difference, Conditional Demographic Disparity (CDD), and mean difference.

PROJECTS

NETRAVAK
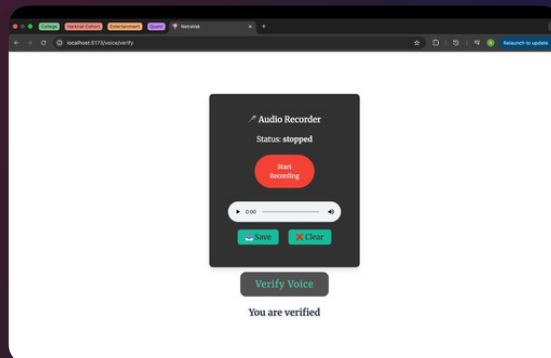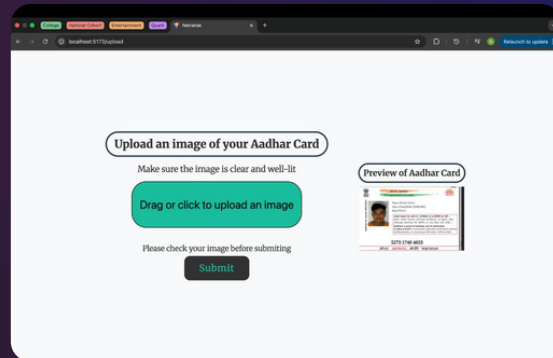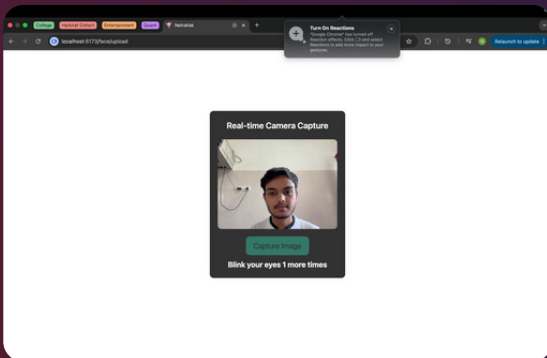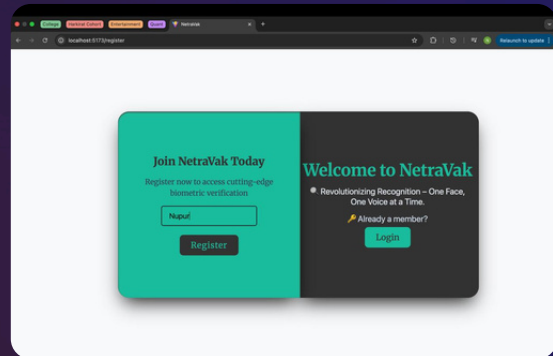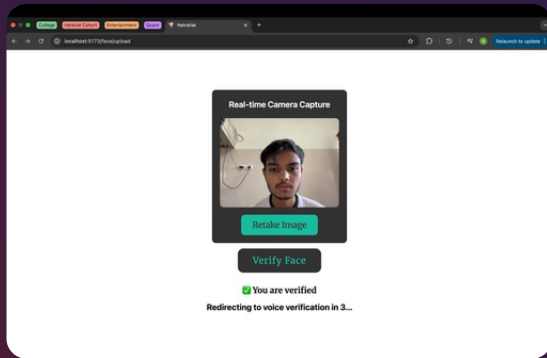
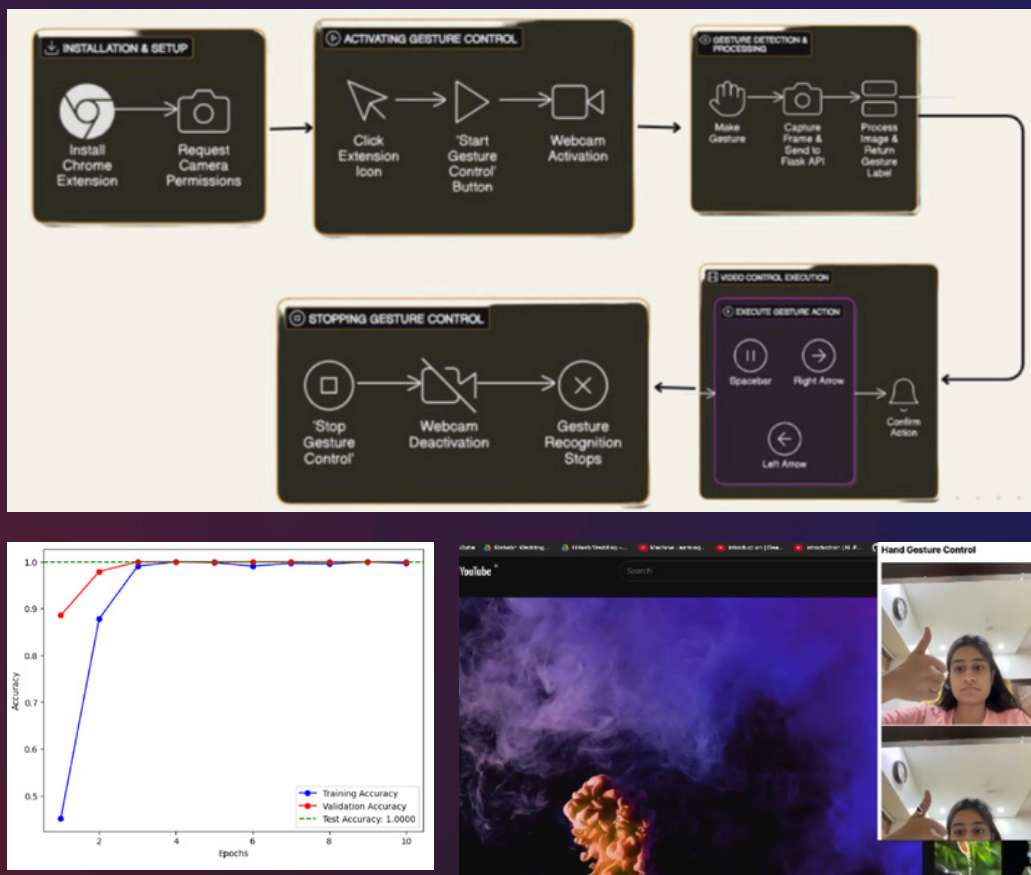PROJECT BY - ISHA SHAH , HARSHIT VORA , MAITREYA VAIDYA , NUPUR SAMRIT

Multimodal Biometric Identity Verification and Authentication System that integrates facial and voice recognition using advanced deep learning models. Our system aims to implement dynamic fusion techniques, such as attention-based neural networks, to intelligently prioritize the most reliable biometric input based on real-time data quality. It will also include a module for cross-verification with government-issued ID images to enhance authenticity. This project seeks to create a robust, secure, and user-friendly solution capable of functioning reliably in real-world, noisy, and dynamic environments, while effectively countering spoofing attempts and ensuring high accuracy.
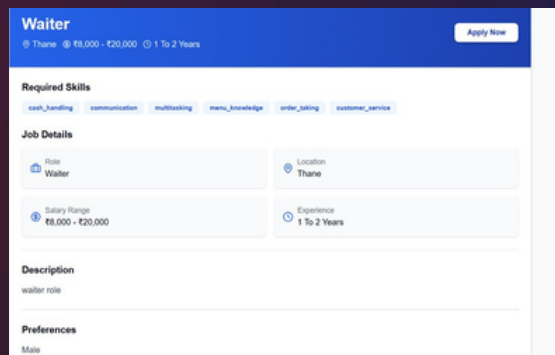
PROJECTS

CAMPUS RESULT

PROJECT BY - KONARK NEHETE

🎓 Campus Results – Solving SPPU's Result Delays with Automation 🚀📊 website:
www.campusresults.live

The struggle is real. Every semester, thousands of students anxiously refresh the SPPU website for hours, only to face server crashes and long wait times.
We asked ourselves: Can we make this process instant? The answer was yes.

🔍 How Does Campus Results Work?
After analyzing SPPU's result-fetching mechanism, we discovered that results could be retrieved programmatically using pattern IDs, seat numbers, and mother's names. By automating this process, we built Campus Results—a platform that fetches thousands of results in under a minute!

🚀 How We Built It:
✅ Automated Data Fetching – Instead of students manually entering details, we send bulk POST requests to SPPU's backend, retrieving results instantly.
✅ Fast & Scalable Storage – Using MongoDB, we store results efficiently, ensuring:
⚡ Instant access (No server crashes!)
📊 Persistent storage (Even after SPPU removes results)
✅ Real-Time Analytics – With Apex Charts, students get:
📊 Department-wise analysis
📊 Department-wise rank
📈 Pass percentage trends
🏆 Leaderboards of top performers
📌 See the detailed working here: Add a little bit of body text
🔥 50K+ Clicks & Growing!

🚀 Campus Results has crossed 50,000+ clicks in a short time! The overwhelming response has motivated us to improve and scale the platform further.

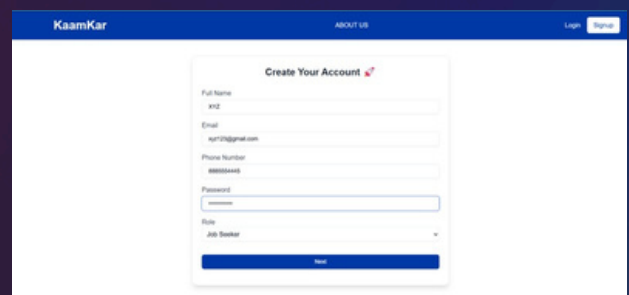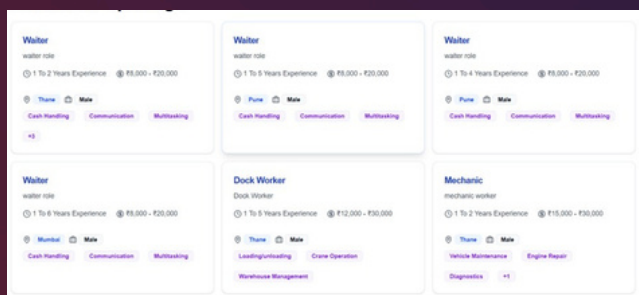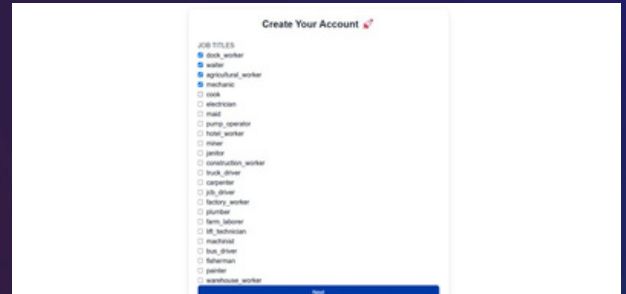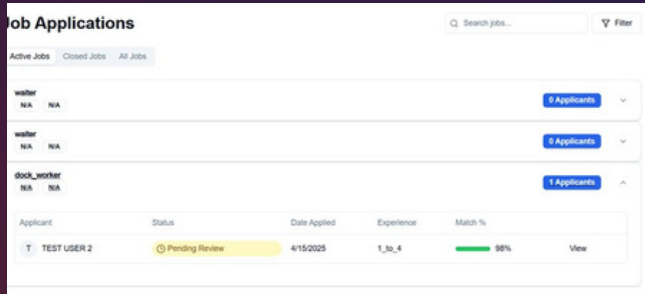# PROJECTS

HANDVERSE

PROJECT BY - MANYA, PRISHA BIRLA, PAKHEE DHANKE, ANJALI SALWAY

Hand Gesture-Based Video Navigator, aimed at enhancing user interaction with multimedia platforms. This system allows users to control video playback using simple hand gestures, eliminating the need for a keyboard or mouse. By integrating computer vision and machine learning techniques, the project accurately detects gestures such as play, pause, forward, and rewind through a live camera feed. Once a gesture is recognized, it is instantly mapped to the corresponding video control action on popular streaming platforms like YouTube and Netflix. This not only offers a seamless and immersive viewing experience but also adds an extra layer of accessibility for users who may face difficulties using conventional controls. The extension runs directly in the browser, making it lightweight, easy to install, and highly user-friendly.

Designed with both convenience and inclusivity in mind, the project combines artificial intelligence, web technologies, and user-centered design into a functional and impactful solution.
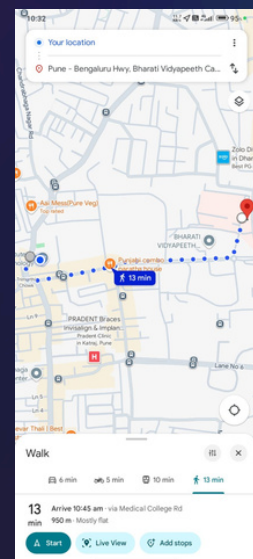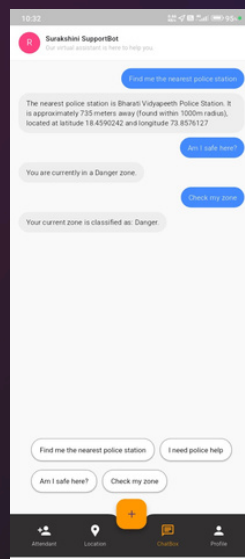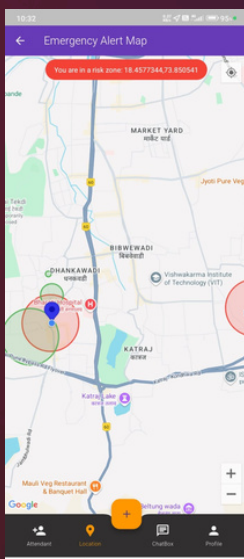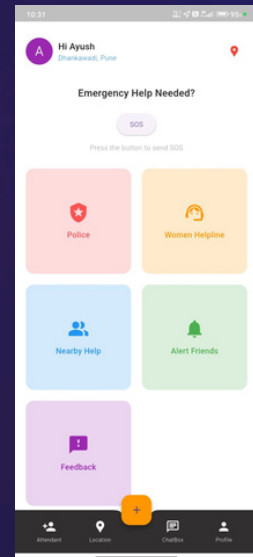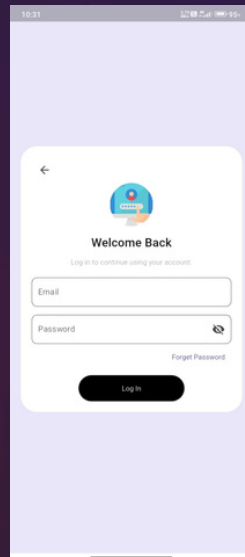
PROJECTS

BLUE COLLAR JOB PORTAL

PROJECT BY - VIVEK BHALKE, HARDIK GUJRATHI, ATHARVA GHONGADE, ROHIT JADHAV, ABHISHEK CHOUDHARI

This project proposes the development of an AI-powered job portal designed to bridge this gap by efficiently matching blue-collar workers with relevant job opportunities. The system leverages machine learning algorithms, specifically TF-IDF (Term Frequency-Inverse Document Frequency) and Cosine Similarity, to recommend jobs based on workers' skills, location, and salary preferences. By employing content-based filtering, the platform ensures personalized job recommendations, enhancing job search efficiency.

The project includes a web-based application with an intuitive interface that facilitates user-friendly navigation for both job seekers and employers. Features include secure authentication, personalized job recommendations, profile management, and real-time job postings.

PROJECTS

EMERGENCY ALERT SYSTEM

PROJECT BY -SHIVPRATAP MITHAPALLI, AYUSH BHAGWATKAR, KARTIK SURYAWANSHI, GAYATRI NAGRAJ, HARSHITA MAHAKALKAR

A Flutter-based Emergency Alert System that uses real-time geolocation and a chatbot (hosted on Vercel) to:
- Instantly tell you if you're in a safe/normal/danger zone (via Cloud Firestore's zone-indexed data)
- Guide you to the nearest police station or place the call for you
- Deliver fast, automated safety checks with a single tap

All packed into a sleek, location-aware user interface for peace of mind on the go.
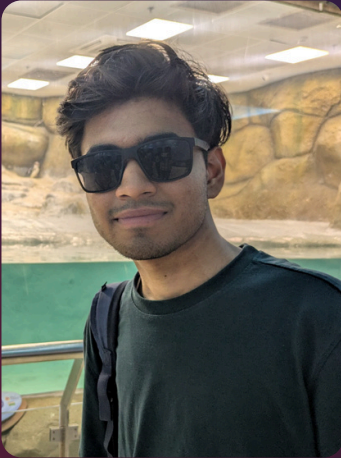
INTERNSHIPS

DIYA AGRAWAL

Upcoming Intern at Barclays

The Department of Artificial Intelligence and Data Science proudly congratulates Diya Agrawal on securing a prestigious internship opportunity at Barclays.

This remarkable achievement is a testament to her dedication, technical acumen, and consistent pursuit of excellence. Securing an opportunity at a leading global financial institution like Barclays not only highlights her individual capabilities but also brings pride to the department.

We believe this internship will offer her invaluable exposure to real-world applications of AI and Data Science in the financial domain, enriching her academic and professional journey. We wish her all the very best for a successful and fulfilling experience ahead!

INTERNSHIPS

PRASANNA PARASHAR

Ex - Project Intern
EMSPHERE TECHNOLOGIES
(June 3 - June 30 , 2024)

ISHA SHAH
AI/ML Intern
ASTRAEUS NEXT GEN Pvt. Ltd.
(Feb 2025 – April 2025)

HARDIK GUJARATHI
Fullstack developer Intern
KAPYBARA
(March- 2025 – Present)

INTERNSHIPS

NIKITA BHEDASGAONKAR

AI/ML Intern
SPARTIS
(Sept -2024 - Present)

BHUMI WAYAL

Project Intern
PICT CYBER CELL
(Feb 2024 – May 2024)

Krish Bavishi

AI/ML Intern
LSOYS APPS
(Feb 2024-May 2024)

BIAS DETECTION AND MITIGATION IN DATASETS AND LANGUAGE MODELS

Bias Detection and Mitigation in Datasets and Language Models

1st Nikita Bhedasgaonkar
dept. of Artificial Intelligence and Data
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Abstract— This research investigates bias in artificial intelligence, focusing on detecting systematic discrimination in language models by employing advanced techniques like Generative Adversarial Networks (GANs), Fairlearn, and AIF360 to analyze datasets and transformer-based models including BERT, DistilBERT, RoBERTa, and XLM-RoBERTa. The study compares the performance of Fairlearn and AIF360 on various machine learning algorithms using metrics like Demographics Parity Difference (DPD) and Equalized Odds

Addressing bias in language models is crucial for several reasons:

- **Ethical Implications**: Biased outputs can reinforce societal stereotypes and exacerbate existing inequalities. For example, AI systems used in hiring or law enforcement might unfairly disadvantage specific demographic groups based on biased training data.

PROJECT BY NIKITA BHEDASGAONKAR, AYUSH CHHETRY, KANAN SHAH, SHRADDHA DOLAS, DEV GUPTA
GUIDANCE BY: MS. ANJALI DESHPANDE

Submitted project for IEEE conference. This research investigates bias in artificial intelligence, focusing on detecting systematic discrimination in language models by employing advanced techniques like Generative Adversarial Networks (GANs), Fairlearn, and AIF360 to analyze datasets and transformer-based models including BERT, DistilBERT, RoBERTa, and XLM-RoBERTa. The study compares the performance of Fairlearn and AIF360 on various machine learning algorithms using metrics like Demographics Parity Difference (DPD) and Equalized Odds Difference (EOD), uncovering significant biases, particularly in gender, and presenting a method for debiasing encoder-based language models. By demonstrating the prevalence of biases across different model architectures, the research emphasizes the critical need for understanding and systematically detecting bias in natural language processing technologies.

RESEARCH PAPERS

NEURAL IMAGE SYNTHESIS: RECONSTRUCTING VISUALS FROM BRAIN ACTIVITY PATTERNS

PROJECT BY TEJAS PATIL, SIDDHESH KADANE

"Neural Image Synthesis: Reconstructing Visuals from Brain Activity Patterns," delves into the exciting fusion of AI, neuroscience, and computer vision. We explored how deep learning models can analyze brain signals and reconstruct visual experiences, paving the way for groundbreaking applications in brain-computer interfaces, medical imaging, and even dream visualization.

🔬 Key Highlights of Our Research:

🧠 Decoding Brain Activity: We examined how fMRI and EEG signals can be mapped to visual stimuli, allowing AI to "see" what a person is thinking or imagining.
📊 Leveraging Deep Learning Models: We implemented GANs (Generative Adversarial Networks) and Diffusion Models to generate realistic images from brain activity patterns, pushing the boundaries of neural decoding.
🔗 Potential Applications: This research holds promise for brain-computer interfaces (BCIs), assisting people with disabilities, and revolutionizing human-computer interaction.

10.CLUB
CONTRIBUTIONS

PICTOREAL

Harshit Vora , Pakhee Dhanke , Shraddha Dolas, Kanan Shah, Bhumi Wayal

Pakhee Dhanke
Coordinator of event Parichay

Parichay is an introductory event for the freshers, aimed at welcoming them and introducing the fun-filled activities and events of the club Pictoreal. It was an amazing experience to interact and coordinate the event. One gets to learn a lot of valuable skills such as decision-making and effective communication with people.

Harshit Vora
Coordinator of Blood Donation Drive

PICTOREAL, in collaboration with NSS, successfully organized a Blood Donation Drive on 4th March 2025. The event witnessed enthusiastic participation from students, faculty, and staff, all coming together for a noble cause. Through this initiative, the club not only promoted social responsibility and community service but also highlighted the spirit of compassion and unity within the PICT campus. The drive stands as a proud reflection of student-led efforts making a real difference beyond academics.

Shraddha Dolas

Active Volunteer at Pictoreal

Have actively contributed for orphanage visit, pictofest, blood donation drive, podcast and interview conducted by club pictoreal. Each event has been a union of fun, togetherness, hardwork and learnings. In the process I discovered more of myself. It has been an incredible experience working with the seniors, juniors and my talented batch mates !!

Bhumi Wayal

Active Volunteer at Pictoreal

Graced the stage for the opening dance of the MRE Magazine Release Event, where she brought to life the vibrant theme of Navras—the nine emotions that shape the human experience.
Lent her voice as a voice-over artist for the audio articles in Picto Magazine Volume 27,

ART CIRCLE

Pakhee Dhanke, Srujan Wavhal

Art Circle — a place where artworks and art forms of different types are appreciated and celebrated, where talent and dedication find a way of expression. Throughout the year, numerous cultural events are carried out, including prestigious competitions like Firodiya Karandak, Purushottam Karandak, Mood Indigo, and other inter-college events. Many of these are coordinated and managed by second-year students, such as Abhivyaktee — an event completely organized and directed by them — and the Freshers' Meet.

This year, in Firodiya Karandak, the team secured 4th prize in Set Design, thanks to the creativity and dedication of the design and backstage teams, who worked tirelessly to bring the stage to life with their detailed and innovative setups.

As part of Abhivyaktee '25, Srujan Wavhal contributed by setting choreographies and conducting regular practice sessions for the first-year students. Through his consistent efforts and support, he played an important role in preparing the performances. Pakhee Dhanke helped manage the overall event, contributing to the scriptwriting and direction of the play, as well as choreographing a classical piece that was performed gracefully by the freshers.

Shraddha Dola, Bhumi Wayal, and Urvi had previously participated in Abhivyaktee '24 during their first year, showcasing their talent and creativity. Their efforts and involvement continue to be appreciated and celebrated.

PICT MUN

Ayush Chhetry , Ameya Dusane Anjali Salway, Hardik Gujrathi

Ayush Chhetry

Ayush Chhetry has been a key member of the PICT MUN Operations Team and contributed to events like PICT MUN Conference 2025 and Adlib. He has been promoted to Chief of Staff for the upcoming year.
Congratulations on this well-deserved role!

Ameya Dusane

Ameya Dusane has contributed to the Content & Research Team and volunteered in key PICT MUN events. He wrote an article "India's Maritime Strategy and the Indian Ocean Region" for Inquisitor and represented PICT MUN at Syntonia MUN, where his team won the Best Delegation Award.

Anjali Salway

Anjali Salway has been a key member of the Design Team and has volunteered in organizing flagship events. In recognition of her dedication and expertise, Anjali has been promoted to Design Head for the upcoming year. We look forward to the impact she will make in this new role.

Hardik Gujrathi

Hardik Gujrathi has been a key member of the Technical Team, contributing to projects such as the club's website and the online chit system implemented in the 2025 conference. In recognition of his contributions, Hardik has been promoted to Technical Head of the club for the upcoming year.
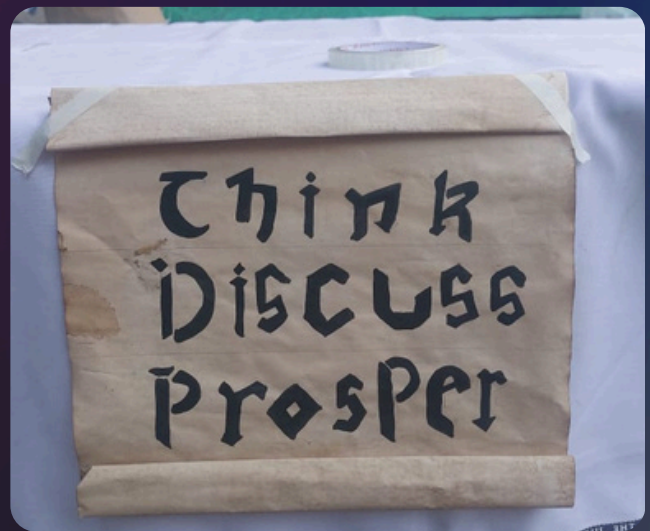
AWS CLOUD CLUB PICT

Pranisha Pol, Ayush Bhagwatkar

1. AWS Cloud Club – Project Internship Program

Students from the Department of Artificial Intelligence and Data Science actively participated in the AWS Cloud Club Project Internship Program conducted at PICT. As part of this initiative, students were assigned innovative cloud-based projects aimed at solving real-world problems. One such project titled "Cloud-Based Data Intelligence Software" focused on developing a SaaS platform to help small-scale enterprises manage and utilize their internal data effectively. Key features included analytics dashboards, data visualization, and a personalized chatbot trained on company-specific datasets to assist employees with routine queries. Throughout the internship, students worked on system design, synthetic data generation, and the implementation of core features using various AWS services, gaining valuable hands-on experience in cloud computing and teamwork

2. AWS Sprint Program & Club Activities

In addition, students from the department participated in the AWS Sprint Program, a structured learning journey that spanned over several weeks. As part of this initiative, students not only completed hands-on labs and weekly learning modules but also took on leadership responsibilities as Sprint Ambassadors to foster enthusiasm and support among peers. The program enabled participants to gain in-depth knowledge of AWS services such as EC2, S3, Lambda, and DynamoDB, along with real-time implementation strategies. A significant highlight of the Sprint Program was its outcome-oriented structure, which guided students toward achieving AWS-recognized certifications. These certifications are globally acknowledged and enhance the professional profiles of students, giving them a competitive edge during placements and internships. Additionally, students contributed to organizing technical workshops and cloud challenge events within the club to build a strong foundation of cloud awareness and skills among their juniors.

PICT ACM STUDENT CHAPTER

Vivek Bhalke, Krish Bavishi, Isha Shah, Nikita Bhedasgaokar, Siddhi Nagpure

49

VIVEK BHALKE KRISH BAVISHI ISHA SHAH

Proud to convey that our students where in the organizing and teaching team , for the 3 DAY C++ SIG for the club PASC

Through PPTs and other resources the basics of Programming and C++ along with hands on coding for the FEs was conducted.

On the 3rd day they successfully conducted a small quiz for all the participants and gave goodies for the winners.

Participation count : nearly 200 students

NIKITA, ISHA and SIDDHI NAGPURE

Our students where part of PICT ACM Student Chapter SIG on Machine Learning on 8th,9th and 10th April.

Topics covered where :

Overview of ML and its types

Numpy, Pandas and MatPlotlib

Exploratory Data Analysis (EDA)

Regression Techniques

Intro to Decision Trees , Nureal Networks , Unsupervised Learning

Around 200 FE-SE students were present for this event

PICT ACM STUDENT CHAPTER

VIVEK BHALKE, ISHA SHAH, NIKITA BHEDASGAONKAR

NIKITA AND ISHA SHAH

Co- organised Dextrous and Paper Presentation in the event Pulzion 2024

Dexterous is a non-technical placement simulation aimed at improving communication and networking skills. Highly recommend to get an experience of non technical rounds that are conducted during interviews.

Paper Presentation gives the students a platform to showcase expertise in their domain via research based presentations.

VIVEK BHALKE

Actively volunteered for on-ground activities and for Publicity of Pulzion event 2024.
He volunteered for managing various tasks and ensured the smooth execution of events.
He was also involved in the inauguration function of Pulzion, helping with planning and coordination.
In addition, he contributed to organizing the functions held just before Pulzion.
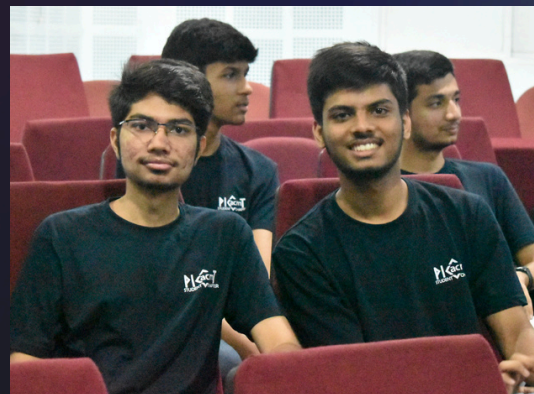
ENTREPRENEURSHIP DEVELOPMENT CELL

Hardik Gujrathi , Bhumi Wayal , Diya Agarwal

SQUID GAME - AN ICEBREAKING EVENT FOR FIRST YEAR STUDENTS

EDC, PICT conducted Squid, a fun and interactive icebreaking event exclusively for first-year students. Designed to encourage bonding and team spirit, the event featured four engaging games that helped participants break the ice and connect with their peers.

A special mention goes to Hardik Gujrathi, the Co-Lead (Technical), who also served as the Organizing Coordinator (OC) for one of the games, showcasing excellent leadership and technical support. Additionally, Bhumi and Diya played a key role as OCs for another game, contributing greatly to the smooth execution and enthusiastic atmosphere of the event.

Their combined efforts helped make Squid a memorable and impactful experience for all first-year attendees!

Magnate-25

Magnate 2025 was the flagship event of PICT's Entrepreneurship Development Cell (EDC), bringing together entrepreneurs, investors, and innovators under one roof. The event served as a launchpad for startups, a learning hub for aspiring entrepreneurs, and a key networking platform for industry leaders. It featured insightful talks, exciting pitch competitions, and interactive networking zones.Hardik Gujrathi played a crucial role in the success of Magnate 2025 by developing the official event website and actively contributing to the event's management and operations, ensuring a smooth and impactful experience for all participants.

TED X PICT

Samarth Raut , Isha Shah , Nikita Bhedasgaonkar

INODAYA

TEDxPICT Inodaya 2025, held at Yashada Auditorium in Pune, brought together a diverse group of speakers who shared transformative ideas under the theme "Inodaya"—the dawn of transformation.

Dr. Aishwarya Nigam, a physiotherapist and wellness influencer, emphasized the holistic benefits of physical activity, illustrating how movement nourishes not only physical health but also enhances mental and emotional well-being. Brajesh Pranami, CEO of Flyhi Finance, addressed the deeply ingrained fear surrounding money and provided actionable strategies to overcome financial anxiety.

Chaitanya Deshpande, known as Saadha Manus, shared his unconventional journey of choosing passion over convention, dropping out of college, and pursuing freestyle football full-time. Simran Malhotra, a solo traveler and consulting analyst, explored how travel teaches life lessons often overlooked by traditional education, fostering cultural understanding and human connection. The Nritya Bhakti Foundation, led by Saie Paranjape, captivated the audience with a Bharatanatyam performance that blended tradition with modern expression. Shon Saoji, Director of Engineering at Coursera, shared lessons from his journey, emphasizing how embracing challenges and learning from failures can shape a fulfilling and impactful career. Samarth & Nikita worked in the Operations team for making the event proceed smoothly and Isha worked in the Design team for Decorating the Venue.

CYBER CELL

Atharv Raut , Rohit Jadhav

ROHIT JADHAV

ATHARV RAUT

Coordinated and Conducted a Special Interest Group (SIG) Session

Rohit and Atharv, core members of PICT Cyber Cell, collaboratively organized and led an engaging Special Interest Group (SIG) session on Web Exploitation tailored for junior enthusiasts. The session provided hands-on experience with real-world web vulnerabilities, guided participants through Capture The Flag (CTF) style challenges, and introduced them to essential tools and methodologies used in ethical hacking. With a strong focus on practical application, the session aimed to spark curiosity, strengthen foundational knowledge in cybersecurity, and encourage juniors to dive deeper into the world of offensive security. Their initiative not only fostered technical growth but also contributed to building a vibrant cybersecurity culture within the institute.

11. EXTRA-CURRICULAR ACTIVITIES

ADDICTION DHOL TASHA PATHAK

Atharva Vyavhare, Atharva Lole, Bhumi Wayal, Diya Agrawal , Samarth Raut , Kartk Suryawanshi

BHARATNATYAM ARANGETRAM COMPLETION

Urvi Rashinkar

Urvi Rashinkar has successfully completed her Bharatanatyam Arangetram, marking a significant milestone in her journey as a classical dancer. An Arangetram is a dancer's debut on-stage performance after years of rigorous training in the classical Indian dance form of Bharatanatyam. It symbolizes the dancer's readiness to perform independently and is a moment of great pride and accomplishment.

Urvi is a professional Bharatanatyam dancer, who teaches students across a wide age group, ranging from 8 to 45 years old

Her Arangetram stands as a testament to her commitment, skill, and love for Bharatanatyam.

SYNTONIA MUN BEST DELEGATION

Ameya Dusane , Ayush Chhetry

Ameya Dusane, along with Ayush Chhetry, proudly represented PICT MUN as part of the official delegation at the Syntonia MUN, organized by Christ College, Pune.

Through their outstanding performance, sharp diplomacy, and active participation in committee discussions, Ameya and Ayush made a remarkable impact. Their exceptional contribution as delegates not only elevated the stature of the PICT MUN delegation but also played a crucial role in securing the Best Delegation Award at the conference.

This achievement reflects dedication, teamwork, and excellence in debate. It was an enriching experience that strengthened leadership skills and fostered meaningful dialogue on national issues.

Ameya Sambhus

Sangeet Visharad — Classical Vocal Degree
Completed all 7 structured levels of classical vocal training, earning the distinguished "Sangeet Visharad" title — a testament to both theoretical understanding and skilled performance in Indian classical music.

First Prize — Inter-Collegiate Singing Competition "Jallosh" (Pune Region)
Secured first place in the Classical Vocal category, standing out among talented participants from colleges across Pune, with a performance rooted in strong classical technique and expression.

Performer — India Book of Records Event
Selected as one of the featured vocalists, performing four classical pieces in a record-setting musical program "Yaman Rang" that earned a place in the India Book of Records for "Maximum Songs Sung in a Single Program Based on Raag Yaman."
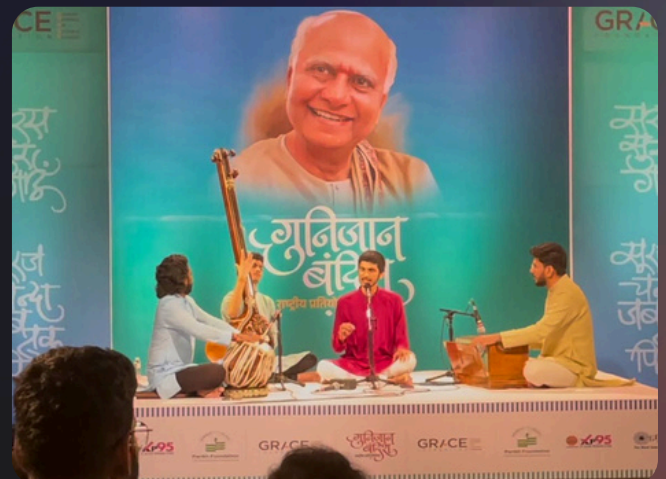
Participant — Gunijaan Bandish Rashtriya Pratiyogita
Qualified for the live performance round of the prestigious Gunijaan Bandish Rashtriya Pratiyogita, a national-level bandish contest. Selected among the top 20 performers from over 200 video entries submitted from across India.

Aarya Patel

Aarya Patel is a part of the PICT Women's basketball team and has represented PICT in multiple tournaments.

Rajashree Shahu Karandak AISSMS, 2025 - WINNERS

Elevate '25 at Pict - Runner ups

Fireball '25 at BVP - WINNERS

Zest'25 at COEP - WINNERS

Nikita Bhedasgaonkar

Aarya Patel is a part of the PICT Women's basketball team and has represented PICT in multiple tournaments.

ZEST'25 , BADMINTON at COEP - WINNERS

12.TECHNICAL ARTICLES

Role of Artificial Intelligence in Food Preparation

The COVID-19 pandemic dramatically altered the way people approached food preparation, with lockdowns, social distancing, and fear of contamination forcing millions to avoid restaurants and rely heavily on home-cooked meals. For many, especially those unaccustomed to cooking, this posed significant challenges—lack of culinary skills, limited access to fresh ingredients, and health concerns related to nutrition and immunity. This crisis highlighted the urgent need for intelligent, accessible solutions in the kitchen. Artificial Intelligence (AI) emerged as a game-changer during this time. For instance, in India, platforms like Zomato's AI-powered kitchen operations helped cloud kitchens streamline cooking processes and reduce human involvement, ensuring safer food preparation. Similarly, TARLA.ai, an Indian AI-based recipe assistant, guided users in preparing meals with whatever ingredients were available at home—a common scenario during lockdowns. Indian appliance brands like Usha and Prestige began integrating smart cooking features into their devices, helping homemakers with AI-enabled timing, temperature control, and recipe suggestions. These innovations not only reduced the burden of daily cooking but also ensured safety, efficiency, and nutrition—making AI an indispensable ally in overcoming culinary hurdles during the pandemic and beyond.

Artificial Intelligence (AI) is revolutionizing the food industry, particularly in food preparation. AI-powered systems can automate cooking tasks, ensuring consistency, efficiency, and quality. Smart kitchen appliances integrated with AI can recognize ingredients, suggest recipes, and control cooking parameters precisely. Robotic chefs use computer vision and machine learning to mimic human actions, chop vegetables, stir sauces, and even plate dishes artistically. AI algorithms analyze large datasets of flavors, ingredients, and dietary requirements to create innovative and personalized meal plans.

Voice-enabled AI assistants guide users through step-by-step cooking processes, adjusting instructions based on user skill level. In commercial kitchens, AI systems predict food demand, reduce waste, and manage inventory efficiently. AI also plays a role in food safety by monitoring hygiene conditions, detecting spoilage, and ensuring compliance with health standards. Machine learning models optimize cooking times and temperatures to enhance taste and nutrition.

Deep learning is used in taste prediction models, helping chefs experiment with new food pairings. Vision-based AI systems assess food quality and presentation for quality control. Smart ovens powered by AI adjust heat levels dynamically for perfect results. In cloud kitchens and delivery services, AI schedules food prep to match delivery logistics. From recipe generation to autonomous cooking robots, AI is transforming kitchens into intelligent culinary spaces.

These innovations are reshaping the job market as well. Companies are actively hiring AI/ML engineers, embedded systems developers, data scientists, and green design specialists. Institutions such as IIT Madras and IISc Bangalore are collaborating with industry to develop AI-powered sustainable appliance prototypes under the umbrella of Atmanirbhar Bharat and Smart Cities Mission.

As India's consumer base becomes increasingly tech-savvy and eco-conscious, the convergence of AI, sustainability, and affordability in kitchen appliances is not only elevating quality of life but also creating a vibrant, future-ready job ecosystem.

-Dr. S. C. Dharmadhikari

Crack the Code: A Beginner's Guide to Competitive Programming (CP)

Competitive Programming (CP) is a powerful tool for students aiming to ace coding interviews at top product-based companies like Google, Amazon, and Adobe, or to shine in hackathons and coding contests. CP sharpens your thinking, helps you solve problems under pressure, and teaches you to code with speed and precision.

Here's a smart approach to get started and stay consistent:

Don't Grind Randomly — Follow a Path

Start with:
Striver's A2Z DSA Sheet 👉 Striver's Sheet
Love Babbar's 450 DSA Sheet
CSES Problem Set (High-quality CP problems) 👉 CSES
Master Patterns, Not Problems
80% of problems fall under 20% of common patterns:
Sliding Window
Two Pointers
Binary Search on Answers
Dynamic Programming (Tabulation > Recursion)
Trees & Graphs (BFS, DFS, Union-Find are must-knows)
Time Yourself
CP is not like board exams — speed is everything.
If you can't solve a medium-level problem in 30 minutes, your brain needs more practice.
Codeforces > GFG
For real CP improvement, focus on Codeforces and AtCoder.
Participate in timed contests to level up faster.
Consistency Wins
Solve 2–3 problems every day.

Avoid the "I'll do it on the weekend" mindset — it doesn't work.

-Harsh Lembhe

Competitive Programming Highlights: A Journey of Logic, Grit, and Growth

Achievements:
Specialist @CodeForces (Max Rating: 1486)
Secured a global rank of 1373 among 39,585 participants in CodeForces Round 1016 (Div. 3)
3⭐ @CodeChef (Max Rating: 1652)
Achieved a global rank of 45 in CodeChef Starters 169 by solving a complex Binary Search problem

💡 **A Note on the Journey:**
 Competitive programming truly tests real problem-solving skills. It's not something that can be mastered by merely studying concepts—it demands consistent practice to build accuracy, logic, and implementation skills.
"Many give up not because they don't understand the logic, but because they struggle with implementation. Writing and refining code is the only path to mastery."
From battling with messy, bug-filled code 🥴 to eventually writing clean and elegant solutions ✍️, the journey is demanding—but also deeply fulfilling. 🙌
Alongside CP, I've consistently prioritized my academics, maintaining a CGPA of 9.69

-SiddhantWani

" Brewing Ideas Over Chai "
A Memorable Encounter with the Founders of Josh Software

Fresh off the excitement of winning Web Weaver Hackathon 2025 🏆, our team—creators of DefenceX, an AI-powered scam call detection system—had the incredible opportunity to meet the brilliant minds behind Josh Software, the title sponsors of Credenz and judges of our hackathon.

As we stepped into their workspace, we were greeted with warm smiles, an air of innovation and a deep-rooted passion for tech. Our discussion kicked off with a quick walkthrough of our solution—DefenceX. The founders, intrigued, shared their thoughts and then introduced us to a powerful fraud prevention platform already deployed in international markets. Their way of approaching the same problem from a completely different angle was nothing short of mind-blowing. It opened up new doors in our understanding and got us buzzing with ideas.

The conversation naturally flowed into life beyond tech. As Gautam, a proud PICT alumnus, reminisced about college days and shared his journey, we were struck by the serendipity of it all—the entire Josh Software story began as a casual tea-time chat among friends. What followed was the creation of a full-fledged company built on innovation, experimentation, and trust. Their story reminded us that great things often begin unexpectedly.

The conversation took a turn toward career planning and personal growth—and this part truly stayed with us. They emphasized the importance of intentionally shaping your life and goals early on.
Rather than listing it out, they gently offered us a framework to reflect on:

Begin aligning your personal, professional, financial, and social goals by the time you're 20.

Carve out a path that blends your interests with your strengths—because that's where passion becomes purpose.

And most importantly, "LOVE what you DO, or DO what you LOVE." That's not just career advice; it's a mindset for life.

After soaking in those nuggets of wisdom, we were given a mini tour of their workspace—and we fell in love. The environment was vibrant, collaborative, and downright exciting. From open discussions to brainstorming corners, from sleek work pods to a full-on cricket team (yes, they compete in corporate leagues!), Josh truly embodies work-life balance.

To make the day even more special, we found ourselves celebrating Sethu's birthday—one of the co-founders—with mini samosas, a decadent chocolate cake, and tons of laughter. It turned into an impromptu networking session filled with insightful conversations. A highlight? One of the employees, who moonlights as a professional hand reader, read my palm. I'm not someone who usually buys into that stuff—but I couldn't help but smile at the prediction: a future in the US and a French husband by 28! 😂

As we rode back home on the bus, we chatted about corporate culture, reflected on what we had just experienced, and shared laughs over the fortune-teller's predictions. It was one of those days that leaves you feeling recharged and reconnected with why you started building in the first place.

We returned not just with memories—but with a spark to dream bigger, build better, and lead with purpose. Here's to innovation, mentorship, and the magic that unfolds when tech meets heart.

-Bhumi Wayal & Krish Bavishi

Studio Ghibli Imitation

Just a few days ago a trend took the world on an unmatched craze. The craze of viewing the world through a different lens, 'The lens of Ghibli'. Masses of people all over the world are generating, posting and admiring their images in Ghibli style.

So, what this Ghibli is? Studio Ghibli Inc. is a Japanese animation studio based in Tokyo. It has strong presence in animation industry. It was founded on 15 June , 1985 by Hayo Miyazaki, Isao Takahata, Toshio Suzuki, Yasuyoshi Tokuma. It produces live action films, short films, television films and commercials.

A few days ago, a new feature was introduced in OpenAI's ChatGPT: generating and converting images into Ghibli style. The artistic pieces, which sometimes take years to be created are obtained within seconds now. No more waiting. No skilled artist required. Everyone can have as many copies of this art forms as they want. Cool, isn't it?

But wait what sense does this make? I mean removing efforts and emotion out of an art, does that remain an art in itself? Absolutely not. It like removing the soul out of a body. Realistic hard work over algorithmic fad, seriously? All this for a temporal happiness. Just another trend until everyone gets exhausted following each other just for the sake of 'fitting in with the crowd'

The globe is parted into people who are following the trend blindly just like any other trend while the others are criticizing the imitation done. It's a case of harm to intellectual property. Injustice to the handmade talent. Disrespect towards the years artists put into their art, their form of worship.. And for the fans for Ghibli animations, it's a heartbreak.

Everyone piece of work deserves an assurance of not being imitated. Otherwise, the day Is not far when algorithm will come up with voices of legendary singers like 'Lata Mangeshkar, Mohammad Rafi, etc.' and make them available like anything.

All I will say is before accepting anything, put your brain to work and analyze its impact, its necessity, its authenticity, its reliability and most importantly its fairness. Only having a broad mindset and thinking of long run can salvage humanity!!

–Shraddha Dolas

Designing Cravings: Piyush Kurwade's UX Take on Food Decisions
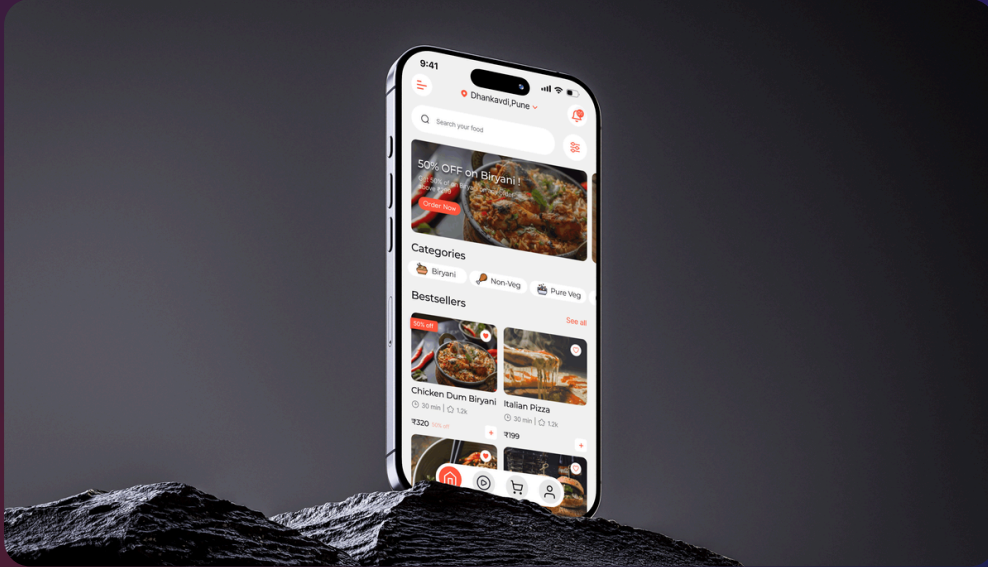
Piyush Kurwade, a budding UI/UX designer and engineering student, has reimagined the traditional food delivery experience by addressing a universal dilemma: "What should I eat today?"

His innovative app concept introduces short-form video content — featuring chef-made recipes, influencer reviews, and restaurant previews — to guide users toward quicker and more satisfying food choices.

Rather than scrolling endlessly through static menus, users interact with bite-sized visual content that sparks cravings and streamlines decision-making. The project showcases core principles of user research, design thinking, and prototyping, offering a refreshing blend of content and functionality.

An exciting example of how thoughtful design can solve everyday frustrations — one scroll, one craving, one momo at a time. 😋

🔗Explore the full case study on Medium

🔗LinkedIn Profile

-Piyush Kurwade

From Vision to Victory: Team Neural Nexus at SIH 2024

It all began in July last year with a casual YouTube scroll and a video titled "Roadmap for SIH 2024." That one video sparked a curiosity that turned into determination. We were just second-year students then, eager to be part of something meaningful — and Smart India Hackathon became that path.

We jumped into brainstorming, building rough prototypes, and understanding the AICTE problem statement deeply. Competing against seniors during internal rounds, we refined our idea and cleared the college evaluation, boosting our belief in the project.

The excitement soared when we cleared the national PPT round and saw our team listed for the Grand Finale. With bags full of hardware and hearts full of hope, we traveled to SVCET, Chittoor — the venue buzzing with energy from teams across the country.

The 36-hour hackathon tested our limits. As the only all-second-year team, we were nervous but determined. After a tough second evaluation with critical feedback, we bounced back. Overnight, we redesigned features, improved UI/UX, and added impactful functionality.

By the morning evaluation, judges were visibly impressed — and we were back in the race. Final hours flew by with last-minute fixes, intense rehearsals, and a powerful final pitch. The moment our team's name was announced as winners of Problem Statement 1730, it felt surreal.

That trophy? More than a prize — it symbolized late nights, team spirit, growth, and relentless passion. What started as an idea became a life-changing win.

💬 "From brainstorming in our hostel to holding the winner's cheque — this journey taught us more than any classroom ever could."

-Isha Shah,Nikita Bhedasgaonkar

HACKS and RESOURCES

5 Tech Hacks for Freshers

1. Start with Structured Roadmaps
Use sites like roadmap.sh or GeeksforGeeks to build your skills step-by-step — starting with C/C++, DSA, and basic web development.
Tip: Set weekly goals and track them using Notion or Trello.

2. Use ChatGPT as Your Coding Assistant
Ask for explanations, debugging help, or guidance on tricky logic.
Prompt Example:
"Explain this sorting algorithm with beginner-friendly comments."

3. Push Projects to GitHub Early
Even small assignments matter. It helps you build version control habits and gives you a solid project portfolio.
Bonus: Activate GitHub's free Student Developer Pack for extra tools.

4. Stick to One Coding Platform
Pick a single platform like LeetCode, GeeksforGeeks, or CodeChef, and solve one problem a day to build consistency.
Start with: LeetCode's "Easy" problems or GFG's "DSA for Beginners."

5. Build as You Learn
Don't wait to be an expert—create mini-projects (e.g., to-do app, calculator) while learning.
Tip: Add small challenges like styling, animations, or using APIs.

5 Underrated Tech Resources

1. Roadmap.sh –
Developer Learning PathsClear roadmaps for roles like Frontend Dev, DevOps, ML Engineer, etc. Ideal for semester-wise skill planning.

2. Excalidraw
Visualize Concepts Fast Create hand-drawn-style diagrams for algorithms, system designs, or presentations.

3. Refactoring.guru –
Design Patterns Made Simple learn OOP patterns and clean code practices with visuals and multi-language support. Great for interviews.

4. Explain.dev –
Code Explanation Tool Paste code (JS, Python, etc.) to get plain-English line-by-line explanations. Perfect for learning or debugging.

5. 100 Days of Dev Projects
Build Real-World Projects
Explore beginner-to-advanced project ideas with tech stacks. Ideal for building your GitHub portfolio.

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