



AIML QUEST

NEWSLETTER

DEPARTMENT OF
ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING



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VISION, MISSION AND OBJECTIVES OF THE INSTITUTE

VISION

- To be one of the premier institutions of Engineering and Management education through excellence in academics, research, innovation and entrepreneurship with global standards.

MISSION

- To impart world class value-based education in Engineering and Management.
- To provide thrust for research activities by establishing centers of excellence in sustainable innovative technologies and collaborate with industries to carry out interdisciplinary research.
- To generate highly skilled and competent manpower with leadership qualities, team spirit and concern for society and environment.
- To nurture organizational culture conducive for faculty to be competent and set higher standards.

OBJECTIVES

- To achieve educational goals as stated in the vision through mission statements which depicts the distinctive characteristics of the institution.
- To make teaching-learning process an enjoyable pursuit for the students and teachers.

VISION, MISSION AND OBJECTIVES OF THE DEPARTMENT

VISION

- To be a center of excellence in Artificial Intelligence & Machine Learning through quality education, research, innovation and entrepreneurship.

MISSION

- To generate highly skilled and competent man power in Artificial Intelligence and Machine Learning through quality education with societal concerns and ethical standards.
- To inculcate leadership skills in students to be successful entrepreneurs or lead diverse teams to solve real world problems
- To promote research and innovation in future technologies through industry collaborations and Centers of Excellence.

PROGRAM EDUCATIONAL OBJECTIVES(PEO's)

AFTER 2/3 YEAR OF GRADUATION, THE STUDENTS WILL HAVE THE ABILITY TO:

- The ability to adapt to the ever changing technologies through lifelong learning.
- Strong understanding of ethical practices and societal impact of AI and ML technologies.
- Leadership qualities and communication skills to lead professional teams and manage entrepreneurial journey.

DEDICATED TO.....



with both brilliance and a soul.

Dr. Fei-Fei Li (Born 3 July 1976) is the Sequoia Professor of Computer Science at Stanford University and is widely known as the "Godmother of AI." She changed the course of history by creating ImageNet, the massive dataset that sparked the modern deep learning revolution. A leading advocate for Human-Centered AI, she focuses on ensuring that technology remains benevolent and inclusive. In 2025, she was recognized as a Time Person of the Year "Architect of AI" for her groundbreaking work in Spatial Intelligence with her startup, World Labs. By teaching machines to understand the 3D physical world, she is pioneering the next frontier of "Embodied AI" and robotics. Her journey from a young immigrant to a global tech leader serves as a profound inspiration for engineers to build technology

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Editor's Desk.....

Dear readers, we welcome you to the QUEST of AIML

We are pleased to welcome you to the latest edition of our AIML Department Newsletter. Artificial Intelligence and Machine Learning continue to redefine the boundaries of innovation, reshaping industries and inspiring a new wave of creativity and technological advancement. In this issue, we bring you a rich blend of insights, achievements, and updates from our department. From cutting-edge research breakthroughs to engaging events, we aim to celebrate the talent, passion, and hard work of our faculty and students.

We also dive into thought-provoking discussions on the OpenAI's New "Jalapeño" AI Chip, The Silent Rise of Quantum Sensors, What Happens When AI Runs Out of Internet, Agentic AI and The Evolution of Multimodal AI. In addition, don't miss our 'AI Puzzles' and 'Guess the AI' columns, designed to spark curiosity and challenge your mind! The Editorial Board would like to thank all contributors. We would like to express our deepest gratitude to our Management for showing the keen interest, guidance and active support. We look forward to receiving constructive suggestions from readers to improve the Newsletter content.

Happy Reading...!!

Department Overview

The Department of Artificial Intelligence & Machine Learning (AIML) is approved by AICTE-VTU from the academic year 2020-21. We have started our exciting journey in the year 2020 with the department offering an undergraduate B.E. program with an intake of 120 students.

The Department comprises of well qualified teaching faculty with flourishing research, teaching and industrial experience. It is committed to impart rigorous training to students to generate knowledge through the state-of-the-art concepts and technologies in AIML. We aim to transform the Department as a leader in imparting AIML education and research.

The Department practices an Outcome-Based Education (OBE) right from the inception, it has an adequate infrastructure with state-of-the-art laboratories and other supporting facilities to provide enhanced learning environment. The Department is preferred by the best of engineering aspirants from all over the country. It has an adequate infrastructure with the centre of excellence in AR-VR & Cyber Security with industry collaboration providing enhanced learning environment. Industry 4.0 demands smart systems, integrated with intelligence to have better human-machine interface. To cope with emerging industrial demands, the curriculum is designed in such a way that translational skills will be inculcated the students of the Artificial Intelligence and Machine Learning undergraduate programme.

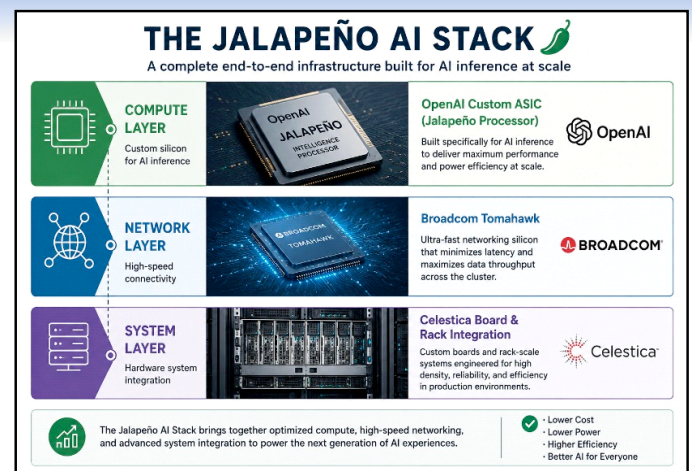
Technical Articles

TURNING UP THE HEAT: OPENAI'S NEW "JALAPEÑO" AI CHIP

Artificial Intelligence is no longer just about smarter software it is now about smarter hardware too. OpenAI, in collaboration with Broadcom, has unveiled its first custom AI inference chip, aptly named "**Jalapeño**". While the name may remind us of the spicy pepper, this chip is designed to make AI systems like ChatGPT faster, more efficient, and more accessible. Unlike conventional processors, Jalapeño is an Application-Specific Integrated Circuit (ASIC) built specifically for AI inference the process of generating responses from trained AI models. Since inference powers millions of everyday AI interactions, it accounts for a large share of data center costs. By optimizing the chip for this task, OpenAI aims to reduce power consumption while significantly improving performance.

What makes this achievement even more impressive is that OpenAI and Broadcom reportedly developed Jalapeño in just nine months. Early tests show it can efficiently handle demanding workloads, including GPT-5.3-Codex-Spark. The chip also minimizes data movement by balancing computing, memory, and networking resources, allowing it to operate much more efficiently.

This innovation is the result of a strong collaboration. Broadcom contributed its high-speed Tomahawk networking technology, while Celestica provided the custom



boards and rack systems needed for large-scale deployment. Together, they have built an AI infrastructure capable of supporting the growing demand for intelligent applications.

Jalapeño also reflects OpenAI's long-term strategy of reducing its reliance on Nvidia's GPUs. Like Google, Amazon, and Microsoft, OpenAI is investing in specialized AI hardware to improve efficiency and lower infrastructure costs, while continuing to use GPUs for training future AI models.

For students like us who use AI for learning, coding, and research, this development is exciting. Faster and more energy-efficient AI means quicker responses, greater reliability, and the potential for more affordable AI services. Jalapeño shows that the future of AI depends not only on smarter software but also on the powerful hardware working behind the scenes.

-Tanisha Shishir Yadapadithaya (1BG23AI112), 7th Semester

NAVIGATING WITHOUT THE STARS: THE SILENT RISE OF QUANTUM SENSORS

Why GPS Isn't Enough

GPS is quietly embedded in systems most people never think about flights, cargo ships, delivery drones, power grids, financial timestamps. The signals that arrive from orbit are genuinely weak, and that weakness gets exploited. In 2017, over twenty ships near the port of Novorossiysk found their GPS placing them kilometres inland at a Russian airport no fault of their own, no alert given. Since 2023, pilots approaching Tel Aviv and Beirut have been logging persistent GPS disruption across the eastern Mediterranean, a pattern documented by aviation safety organisations. The core problem isn't the jammers themselves it's that GPS is an external system. Position, speed, and timing all depend on signals originating from orbit, signals that a third party can interfere with and that you have no control over. That structural dependence is what pushed engineers toward navigation that doesn't look outward at all.

Looking Inward: How Quantum Navigation Works

The alternative is called **atom interferometry**, and it works by reading motion directly from atoms. A compact vacuum chamber cools a cloud of rubidium or cesium atoms to fractions of a degree above absolute zero. At those temperatures, the atoms enter a quantum state where they behave like waves, and any acceleration or rotation of the aircraft shifts that wave pattern in measurable ways. Precisely timed laser pulses read those shifts, and the system derives position and velocity from them no satellite link, no external reference signal.

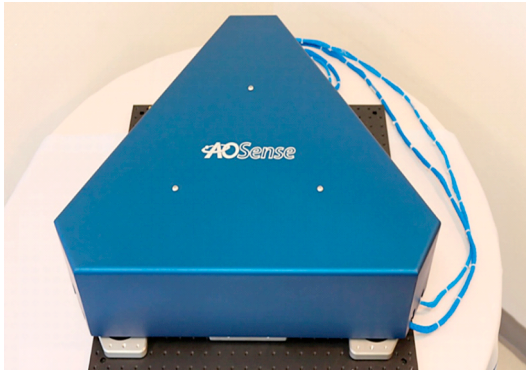
What makes this useful isn't just that it avoids satellite signals it's that the reference it uses is physical. Atomic behaviour at near-absolute-zero temperatures is governed by constants of nature that don't drift, can't be spoofed, and aren't affected by geography or outside interference. The sensor carries its own standard.

From the Lab to the Cockpit

Bridging the lab and an actual aircraft was the slow part. Quantum states collapse easily vibrations from the engine, temperature gradients, and electromagnetic interference from cockpit instruments can all destroy the coherence needed for the measurement to work. This is quantum decoherence, and until recently it kept the entire concept confined to specially shielded laboratory environments.

That changed in 2024, when **Boeing** ran the world's first recorded quantum navigation flight tests aboard a Beechcraft 1900D. The team worked with **AOSense**, who built the core quantum sensor unit; **SandboxAQ**, whose AQNav system used Earth's magnetic field to keep position errors in check; and **HRL Laboratories**, who contributed a compact star tracker. The system held up through takeoffs, turns, and landings — four hours of flight without GPS.

Around the same time, **Lockheed Martin** was awarded a contract by the U.S. Defense Innovation Unit to develop their own version, called QuINS, in partnership with **Q-CTRL** and **AOSense**. The defence context is straightforward: personnel operating in GPS-denied environments whether through jamming, spoofing, or infrastructure failure need positioning they can trust without depending on a satellite someone else controls.



AOSense's quantum IMU sensor. Photo: AOSense.

Why This Matters

The Boeing test was a major step forward because it proved that quantum navigation can work in a real aircraft, not just inside a laboratory. Scientists have understood atom interferometry since the 1990s, but turning it into practical technology has been difficult. Aircraft vibrations, changing temperatures, and bulky equipment have all created challenges. Engineers are now finding ways to solve these problems. In the future, this technology could help aircraft navigate

when GPS fails, guide autonomous vehicles through tunnels and crowded cities, and support emergency teams working inside buildings. Although it may take time before quantum navigation becomes widely available, the successful flight test brings it much closer to everyday use.

-Kashvith (1BG24AI035), 4th Semester

BEYOND THE DATA LIMIT: WHAT HAPPENS WHEN AI USES UP ONLINE INFORMATION?

In recent years, AI models have become more powerful by learning from huge amounts of online content, including social media posts, discussion forums, digital books, and computer code. Increasing both training data and computing power has helped improve their performance.

However, the supply of high-quality public internet data is limited. Researchers predict that most of this useful information may be consumed for AI training within the next few years. Without enough new human-created content, further progress in AI could slow down.

To address this problem, researchers are turning to synthetic data—information generated by AI itself to train future generations of AI models.

It's Not Fake Data It's Targeted Data

When people hear "synthetic data," they often picture low-quality placeholder text or random noise. But in practice, it's far more deliberate. Instead of scraping raw web text and hoping a model eventually picks up on complex reasoning, engineers use specialized pipelines (like rejection sampling or automated code checkers) to produce synthetic datasets tailored to very specific gaps like complex math logic, edge-case bug fixes, or strict system prompts.

It ends up fixing three massive pain points we deal with in ML development:

- **The Edge-Case Dilemma:** A self-driving car might drive a million miles without seeing a snowstorm at dusk with a broken traffic light. A synthetic pipeline can spawn thousands of those exact scenarios in seconds.
- **Privacy Without the Red Tape:** In healthcare or banking, handling real patient records or financial transactions is a regulatory minefield. Synthetic datasets capture the exact underlying mathematical patterns without using a single real person's personal information.

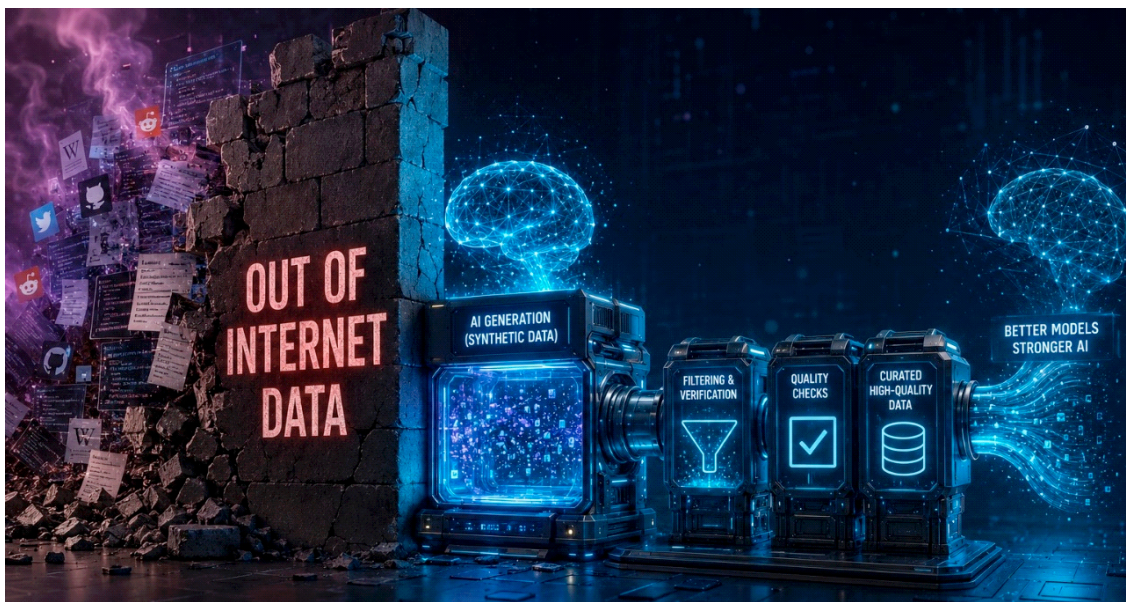
- No Manual Labeling: Annotation is slow, expensive, and a headache to coordinate. Synthetic data comes out pre-labeled by default.

The Inbreeding Catch: "Model Collapse"

If generating data with AI to train AI sounds too good to be true, that's because there's a catch.

If you feed a model its own unverified output repeatedly, small errors compound. The network starts losing stylistic variety and factual grounding, echoing its own mistakes until its output degrades into useless repetitive noise. Researchers call this Model Collapse or less formally, digital inbreeding.

This is why synthetic data isn't just about 'generating'. The actual engineering work happens in the filtering pipelines - using strict code execution environments, math solvers, and "verifier" models to discard 90% of the junk and keep only the pristine outputs.



What This Means for the Future

Synthetic data isn't just a band-aid for a data shortage it's changing how we think about model size. We're already seeing smaller, well-filtered models trained on high-quality synthetic datasets easily beat massive, bloated models that swallowed noisy web dumps.

We might be running out of human text on the web, but we aren't running out of ingenuity. As AI shifts from swallowing the internet to generating its own learning materials, the next big leap won't come from consuming more data it will come from creating better data.

-M Saavarni (1BG23AI061), 7th Semester

AGENTIC AI: THE DAWN OF AUTONOMOUS AI COLLEAGUES

Mid-2026 feels different. Not the usual tech, Twitter cycle of hype that fades in three weeks, but the quieter kind, the kind you notice when the tools you open every morning start doing things that make you pause.

We've moved past chatbots that simply answer. What's arriving now is AI that acts: systems that can take a goal, work out the steps, choose the right tools, recover when something breaks, and only check in when they genuinely need to. Agentic AI is no longer a research-paper idea. It's showing up in real workflows, and some days it already feels less like a feature and more like a slightly intense colleague who never clocks out.

What does "Agentic" Actually Mean?

Traditional AI is reactive. It waits for instructions. Agentic AI is goal-driven. You hand it an objective and it figures out the plan, the tools, the recovery path, and when to escalate versus simply keep going.

It's the difference between an intern who needs a detailed brief for every single task and a sharp new hire you can tell "get this done by Friday" and they actually do.

Frameworks like LangGraph, AutoGen, and Claude's tool-use capabilities are making this practical right now. More than 60% of companies are already planning deployments within the next two years.

What's Actually Happening

A few patterns are becoming hard to ignore:

- Multi-agent teams specialized agents working in parallel (one researches, one writes, one reviews) like a small digital assembly line.
- Deep enterprise integration agents living inside Slack, Jira, and Salesforce instead of sitting in a separate chat window.
- End-to-end ownership the better systems now handle full workflows: research, decisions, and execution, all inside clear guardrails.

The Impact We're Already Seeing

Software teams are shrinking sprint cycles from days to hours. Operations teams have agents quietly handling scheduling, procurement, and reporting. Researchers and creatives are running multi-agent setups on complex projects that used to require constant human coordination.

Gartner's prediction that 40% of enterprise applications will include task-specific agents by the end of 2026 no longer feels distant, it's less than six months away.

The Hard Parts Aren't Solved

More autonomy brings more responsibility. Keeping agents on-script, controlling access, managing costs, and figuring out how humans and agents actually collaborate as roles shift none of this is fully solved yet.

The organizations making real progress aren't throwing agents at everything. They're starting with clear use cases, strong oversight, and proper governance not vendor demos and vibes.

Looking Ahead

2026 is shaping up to be the year agentic AI stops being something you read about and starts being something you work alongside every day. For anyone building in AI/ML, getting comfortable with agent frameworks, orchestration patterns, and reliable systems is quickly becoming a core skill rather than a nice-to-have. The shape of what it means to build with AI is changing, and we're still early enough to help decide how that change unfolds.

--Kriti Raju Ijari (1BG24AI033), 4th Semester

THE EVOLUTION OF MULTIMODAL AI: WHEN MACHINES CAN SEE, HEAR, AND UNDERSTAND

You spot a friend across a crowded room. Half a second, maybe less, and you've clocked their face, picked up the tension in their voice, figured out what they're actually saying versus what they're saying out loud, and you're already responding. No single sense did that. Your brain grabbed sight, sound, and context all at once and mashed them into one picture.

That's the trick researchers have been chasing for years. Early AI didn't work like this at all it was narrow, almost stubbornly so. One model read text. A different one looked at images. Neither had any idea the other existed. Which is a problem, because that's not really how understanding works. So the field started pushing toward something else: multi modal AI, systems that can take in text, images, audio, video whatever and reason across all of it at the same time instead of one channel at a time.

The mechanics behind it lean on deep learning, architectures built specifically to find the relationships between different kinds of input. Not unlike how your own brain ties what you're seeing to what you're hearing. Show one of these models a photo with a caption, and it can look at both together and give you an answer that actually uses the two in tandem.

Vision-language models are probably the easiest place to see this working. A model that can look at a picture and describe it, answer questions

about it, read it out loud for someone who can't see it — that's a VLM. Speech systems do roughly the same job on a different axis, connecting spoken language to machine understanding, which is why you can just talk to your phone now instead of typing at it.

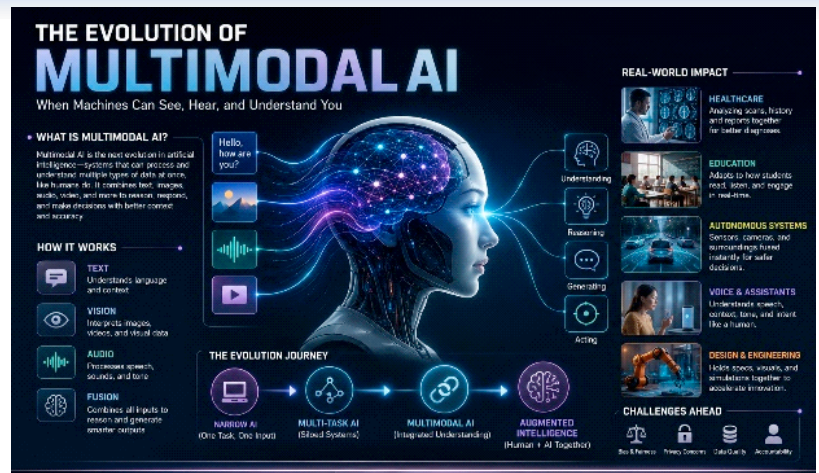
And the uses keep piling up. Doctors are starting to get tools that weigh a scan against a patient's history in one pass instead of two separate steps. Classrooms are experimenting with lessons that shift in real time based on how a student's reading, listening, and looking. Self-driving cars basically live on this stuff — camera, sensors, surroundings, all fused together, all the time, because there's no room for a half-second lag.

None of which means it's a solved problem. Not close. A model can pick up on a frown or a cracked voice without feeling a single thing about it — recognizing an emotion and having one are not the same act, and that gap doesn't close just because the pattern-matching gets better. These systems still run on data, and data is still wrong sometimes, confidently wrong even. Privacy, bias, who's accountable when it messes up — none of that goes away. If anything it gets messier once you're pulling from five data types instead of one.

Where's this actually going? Probably not toward machines that think like people — that's not really the point. More like machines that stretch what people can already do. A radiologist working next to a system that catches what tired eyes miss. An engineer bouncing a design off a model that can hold the specs and the simulation in its head at once. A student getting corrected by something that's actually paying attention to how they learn, not just what they got wrong.

As machines get better at seeing and hearing and tying the two together, something in the relationship between us and our tools shifts. Not toward machines becoming more human — that was never really the goal. Toward people having more room to think. The interesting part isn't what the machine does by itself. It's what happens when a person's judgment and a machine's perception end up pointed at the same problem.

-Nihar N (1BG23AI061), 7th Semester



Riddle:



Guess the AI!

*I notice what you watch and what you like.
Then I suggest the next movie or song just right.
What am I?*

Recommendation System

Department Activities

FACULTY DEVELOPMENT PROGRAMME ON AGENTIC AI: ARCHITECTURES, TOOLS AND APPLICATIONS

Faculty Development Programme (FDP) on “Agentic AI: Architectures, Tools and Applications” was conducted from 2nd to 7th February 2026. The sessions were delivered by Mr. Dhinesh Rajagopalan, Global Chief Architect, IBM Consultancy; Mr. Jainam Purshottam Patel, Software Engineer, Siemens Healthineers; Mr. Joel, and Ms. Koesha Sinha, Data Scientist, Centre of Data for Public Good, IISc Bengaluru; and Ms. Nidhi Raniyer, Software Development Engineer, IBM. The programme enhanced the participants' understanding of Agentic AI concepts, architectures, tools, and frameworks used to build intelligent agents.



Inauguration by Chief Guest Mr. Dhinesh Rajagopalan, Dr. S.Y Kulkarni: Additional Director and Principal, Prof. Eishwar Maanay :Dean, Dr. Sheba Selvam: HOD, AIML and Participants



Group Photo with Chief Guest Mr. Dhinesh Rajagopalan, Dr. S.Y Kulkarni: Additional Director and Principal, Prof. T J Ramamurthy:Director, Prof. Eishwar Maanay: Dean, Dr. Krishnamurthy G N: Deputy Director, Dr. Sheba Selvam: HOD, AIML and Participants



Hands-on session by Resource person Mr. Jainam Purshottam

BOOTCAMP ON “ROAD SAFETY”

In association with the Institution's Innovation Council (IIC), a road safety bootcamp “Ride Wise and Safe: Road Safety Bootcamp for Empowering Girl Riders” was organized on 29th January 2026. The bootcamp aimed to create awareness about road safety rules, traffic signs, and the legal responsibilities of riders. To strengthen this initiative, helmets were distributed to all participating female students, promoting the consistent use of protective gear. The programme was graced by Dr. Gopal M. Byakod, Deputy Commissioner of Police, South Bengaluru; Ms. Anoushka Das, Programme Manager, Triguna Foundation; and Mr. Basavaraj, Human Resources, Aavas Financiers Ltd.



Welcoming the Chief Guest Dr. Gopal M. Byakod, Deputy Commissioner of Police, Traffic South Bengaluru, by Sri. Narayan Rao R. Maanay, Chairman, GB, BNMIT; Prof. Eishwar N. Maanay, Dean, BNMIT; Dr. Krishnamurthy G. N., Deputy Director, BNMIT; and Prof. T. J. Rama Murthy, Director, BNMIT.



Dr. Sheba Selvam, HOD, Department of AI & ML; Dr. Krishnamurthy G. N., Deputy Director; Mr. Basavaraj, HR, Aavas Financiers; Mr. Manjunath S., ACP, Traffic South Bengaluru; Sri. Narayan Rao R. Maanay, Chairman, Governing Board, BNMIT; Dr. Gopal M. Byakod, Deputy Commissioner of Police, Traffic South Bengaluru; Ms. Anoushka Das, Programme Manager, Triguna; Dr. S. Y. Kulkarni, Additional Director and Principal; Prof. T. J. Rama Murthy, Director, BNMIT; and Prof. Eishwar N. Maanay, Dean, BNMIT.

TECHNICAL TALK ON “AI & ML CAREER OPPORTUNITIES”

A technical talk on “AI & ML Career Opportunities” organized by Institution of Engineers India Students' Chapter on 30/01/2026. The resource person was Ms. Shubha Mule, Senior Student Advisor, Global Degrees. The topics that were covered are Introduction to AI, ML and Deep Learning, Current AI & ML industry trends and career opportunities, AI & ML job roles and career pathways, essential technical and soft skills for AI careers.



Dr. Sheba Selvam and AIML Student Welcoming Resource Person Ms. Shubha Mule.

TECHNICAL TALK ON NEXT-GENERATION APP DEVELOPMENT



Resource Person Ms. Kiruthiga N E addressing students.

A technical talk on “Next-Generation App Development” was organized on 13th March 2026. The resource person, Ms. Kiruthiga N. E., Chief Technology Officer (CTO), Fielduo, for 6th semester students, discussed modern application architectures, full-stack and cross-platform development, AI-powered applications, DevOps, containerization, cloud deployment, application security, scalability, and emerging career opportunities.

Riddle:



Guess the AI!

*I know your face,
Yet I have no eyes.
I unlock your phone,
Without a key.*

Face Recognition

HANDS-ON TRAINING ON THE SNOWFLAKE PLATFORM

A hands-on training session on the Snowflake Platform was conducted for seventh-semester students on 13th June 2026 by Mr. Sairam Rajendran, Software Engineer at Snowflake. The session covered Snowflake architecture, database management, data loading and transformation, SQL query optimization, secure data sharing, access control, data analytics, real-world applications, best practices, and career opportunities.



Group Photo with Resource Person Mr. Sairam Rajendran

TECHNICAL TALK ON GENERATIVE AI AND ITS APPLICATIONS

On 26th February 2026, the CSI Student Chapter of BNMIT and the Department of Artificial Intelligence and Machine Learning organized a technical talk on “Generative AI and Its Applications” for fourth-semester students. Mr. Shreyas Kulkarni, Product Manager at Google, California, discussed the evolution of AI, machine learning, generative AI, and its applications across diverse domains.



Resource Person Mr. Shreyas Kulkarni interacting with faculty and students.



Resource person addressing students and staff.

Riddle:



Unscramble the AI word !

1. MLGORITHA
2. ECHNIMA
3. NEGRTAEE
4. RPOMTP
5. INTCEAG

ALGORITHM, MACHINE,
GENERATE, PROMPT,
AGENTIC

TECHNICAL TALK ON “SECURITY AND AI”

A technical talk on “Security and AI” was organized on 30th January 2026 in association with the Institution's Innovation Council (IIC) and the IEEE Computational Intelligence Society. The session was attended by sixth-semester students. The resource person, Mr. Ananth Nandyala, Cyber Security Analyst at Pragya Cyber Private Limited, explained the applications of Artificial Intelligence and Machine Learning in cybersecurity, with particular emphasis on automated threat detection, monitoring, analysis, and prevention.



The resource person, Mr. Ananth interacting with students.

TWO DAYS WORKSHOP ON GENERATIVE AI AND ITS APPLICATIONS

The CSI Student Chapter of BNMIT and the Department of Artificial Intelligence and Machine Learning organized a workshop on “Generative AI and Its Applications” for sixth-semester students on 1st and 2nd April 2026. Mr. Joel, Data Scientist-I, and Ms. Koesha Sinha, Data Scientist, Centre for Data for Public Good, IISc Bengaluru, provided hands-on training in advanced topics such as Retrieval-Augmented Generation (RAG), vector databases, and diffusion models.



Resource person Ms. Koesha Sinha addressing students

CAPSTONE PROJECT EXHIBITION 2025-26

Project exhibition “Capstone Project Exhibition 2025-26” on 11th April 2026, which was held at S-304 from 10:00 AM to 3:00 PM. In this Exhibition, all the final year students exhibited their project which were evaluated by the external committee members. Academic experts Dr. Annapurna D, CSE(IoT), Dayananda Sagar College of Engineering, Bengaluru and Dr. Snigdha Sen, School of CSE, Manipal Institute of Technology, Bengaluru along with Industry experts Ms. Reshma R, Research Software Development Engineer, Microsoft Research Lab and Ms. Ankita Nigam, Software Development Engineer, Amazon Bengaluru were the jury members for the project Exhibition.



Students interacting with Judge



Students presenting projects in exhibition

AR/VR HACKATHON “VIRTUOVATION 2.0”

AR/VR Hackathon “VIRTUOVATION 2.0” was conducted on March 23rd and 24th 2026. There were 3 domains that the participants could choose from Health Care, Education and Entertainment, The IEEE Computational Intelligence Society (CIS) Student Chapter and AI&ML department at BNMIT successfully organized Virtuovation – AR/VR Hackathon on the 28th and 29th of April 2025. This 20-hour hackathon brought together enthusiastic student developers, designers, and innovators to showcase their talent in the emerging fields of Augmented Reality (AR) and Virtual Reality (VR).



The AR/VR Hackathon inauguration was done by Dr. Sheba Selvam:HOD, Prof. Eishwar Maanay :Dean, Prabhanjana Rao: CEO , Galore Systems, Dr. S.Y Kulkarni: Additional Director and Principal.



Chief Guest Prabhanjan Rao CEO from Galore Systems and Jury members interacting with Students .

HACKATHON ON GENX-AI GENERATIVE AI

Organized “GenX – Generative AI Hackathon” in collaboration with the IEEE Computational Intelligence Society Student Branch Chapter, on 17th March 2026. A total of 48 teams participated in the event. The hackathon aimed to foster innovation, creativity, teamwork, and problem-solving skills among students by encouraging them to develop solutions using Generative AI technologies. The projects were evaluated and guided by an expert panel comprising Dr. R. Krishnan, Professor, Department of CSE, Dayananda Sagar College of Engineering; Mr. Joel D. Joy and Ms. Koesha Sinha, Data Scientists, Centre of Data for Public Good (CDPG), IISc Bengaluru; and Mr. Jainam P., Software Development Engineer, Siemens Healthineers.



Interaction with students by Jury member & Dr. S.Y Kulkarni: Additional Director and Principal, Prof. T J Ramamurthy:Director, Dr. Krishnamurthy G N: Deputy Director, Dr. Sheba Selvam:HOD, AIML.



Mr. Joel D & Mr. Jainam P interacting with students.

INDUSTRY VISIT



An industrial visit to Galore Systems in Vijayanagar, Bengaluru, was organized for the VI semester students on 9th January 2026. Explored emerging technologies such as Virtual Reality (VR), motion capture, immersive interaction systems, and collaborative robotics. They interacted with working prototypes, observed professional workflows, and learned how AI, ML, AR/VR/XR, robotics, electronics, and design are integrated to develop innovative real-world solutions.

VISIT TO INFOSYS MYSURU CAMPUS

The IEEE CIS BNMIT Student Chapter organized an industrial visit for VI-semester students to the Infosys Mysuru campus on 5th March 2026, one of the world's largest corporate training centres. The visit provided firsthand exposure to a global technology environment and the professional landscape of the modern IT industry.



Students at Infosys Mysore campus

VISIT TO IOT EXPO 2026

A visit to IoT Expo 2026 and India Electronics Week was organized for 4th semester students on 15th May 2026 at KTPO, Bengaluru, in association with ISTE. The visit provided practical exposure to emerging technologies, innovative products, Emerging Trends in IoT and Electronics Technologies, Smart Devices, Embedded Systems, and Sensor Technologies, Industrial IoT (IIoT) and Industry 4.0 Applications, AI, Edge Computing, and IoT Integration, Interaction with Industry Experts, Startups, and Technology Leaders, Career Opportunities, Innovation, and Entrepreneurship in IoT and Electronics.



Students and Faculty Members at KPTO as part of Electronics Week

INDUSTRIAL VISIT TO ABB GISPL AIC, BENGALURU

An industrial visit to ABB GISPL AIC, Bengaluru, was organized on 25th June 2026, with Mr. Siddarth S., Senior Firmware Engineer, as the resource person for 7th semester students. Participants explored advanced technologies and innovative solutions in automation, robotics, AI, electrification, and digital industries, gaining insights into their applications in modern manufacturing and smart infrastructure.



Students at ABB Campus

Faculty Achievements

Publication

- **Dr. Sheba Selvam and Priyanka Padki** published a research paper titled “A Bio-inspired Autoencoder-based Model for Single Nucleotide Polymorphism Prioritization in Rheumatoid Arthritis Risk Prediction” in the International Journal of Intelligent Engineering and Systems in April 2026. The journal is indexed in Scopus and ranked in the Q2 quartile.
- **Dr. Sheba Selvam** and Anu Mathews published a research paper titled “Graph Neural Network-Based Personalized Recommendation with Edge Enrichment Using Ratings and Review Sentiments” in the Journal of Advances in Information Technology in January 2026. The journal is indexed in Scopus and ranked in the Q2 quartile.
- **Dr. Mahanthesha U**, Sarala S. Shirabadagi, Kavyashree B., Anilkumar K. B., **Nagarathna C. R.** and **Tejaswini R. Murgod** published a research paper titled “Enhancing Image Texture Features for Region Segmentation Using the Composite Octa-Ternary Pattern (COTP) Method” in Tuijin Jishu/Journal of Propulsion Technology in February 2026. The journal is indexed in Scopus and ranked in the Q2 quartile.
- **Dr. Halaharvi Keerthi**, Suhas Bhise, Indira Priyadarsani Pradhan, Dr. Gajanan P. Arsalwad, Dr. Kanchan Tolan, and Saraswati B. published a research paper titled “Human–AI Co-Creation Models in Conceptual Art” in ShodhKosh: Journal of Visual and Performing Arts in February 2026. The journal is indexed in Scopus and ranked in the Q4 quartile.

Riddle:



Guess the AI!

*Black and white squares are all you see,
Point your camera and I'll tell you where to be.
What am I?*

QR Code Scanner

Conference

- **Dr. Sheba Selvam** presented a paper titled “Agentic AI-Driven Grievance Redressal Triage System for Multilingual Public Complaints” at the *4th IEEE International Conference on Knowledge Engineering and Communication Systems (ICKECS 2026)*, conducted on April 2026 at Sri Jagadguru Chandrashekaranaatha Swamiji Institute of Technology (SJCIT), Chickaballapura. The conference proceedings are indexed in Scopus.
- **Dr. Sheba Selvam** presented a paper titled “RedOps AI: Multi-Agent Orchestration for Autonomous Penetration Testing” at the *4th IEEE International Conference on Knowledge Engineering and Communication Systems (ICKECS 2026)*, organized on April 2026 at Sri Jagadguru Chandrashekaranaatha Swamiji Institute of Technology (SJCIT), Chickaballapura. The conference proceedings are indexed in Scopus.
- **Dr. Sheba Selvam** presented a paper titled “Bio-Inspired Autonomous Swarm Framework for Adaptive Waste Management in Constrained Aquatic Environments” at the *2026 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE)*, organized on January 2026 at BNM Institute of Technology, Bengaluru. The conference proceedings are indexed in Scopus.
- **Dr. Divyashree B. A.** presented a paper titled “AI CropCast: A Comprehensive Review of Crop Recommender Systems” at the *First National Conference on Emerging Technology in Computer Applications (ETCA 2026)*, organized on February 2026 at ABES Institute of Technology, Ghaziabad, UttarPradesh. The conference proceedings are indexed in Scopus.
- **Dr. Tejaswini R. Murgod** presented a paper titled “Machine Learning–Enabled Drone Surveillance for Railway Safety Using the YOLO Object Detection Model” at the *2026 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE)*, conducted on January 2026 at BNM Institute of Technology, Bengaluru. The conference proceedings are indexed in Scopus.
- **Dr. Kakoli Bora** presented a paper titled “Guardian AI: An Integrated Multi-Recognition, Location-Tracking, and Fall-Detection Alert System” at the *6th International Conference on Computer Vision and Robotics (CVR 2026)*, organized on April 2026 at the National Institute of Technology Goa. The conference proceedings are indexed.
- **Dr. Vani K. A.** presented a paper titled “Integrating Neural and Symbolic Paradigms for Reflective Ethical Reasoning and Belief Modeling” at the *2026 International Conference on Next-Gen Quantum and Advanced Computing: Algorithms, Security, and Beyond (NQComp)*, conducted on March 2026 at Manipal Institute of Technology (MIT), Bengaluru. The conference proceedings are indexed.
- **Dr. Nagarathna C. R.** presented a paper titled “Lightweight 3D U-Net for Accurate Hippocampus Segmentation in Brain MRI for Alzheimer's Detection” at the *2026 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE)*, conducted on January 2026 at BNM Institute of Technology, Bengaluru. The conference proceedings are indexed.
- **Dr. Nagarathna C. R.** presented a paper titled “WatchGuard: A Real-Time Women's Safety Detection System” at AICON, conducted on February 2026 in New Delhi. The conference proceedings are indexed.
- **Dr. Sunitha R.** presented a paper titled “Harvesting Intelligence for Precision Agriculture Using an Ensemble-Hybrid Classifier” at ICWCIE, organized on February 2026 at Sharnbasva University, Kalaburagi. The conference proceedings are indexed.

- **Pradip Kumar Das** presented a paper titled “Dynamic Traffic Signal Control for Emergency Vehicle Priority in Urban Networks” at the 2026 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE), conducted on January 2026 at BNM Institute of Technology, Bengaluru. The conference proceedings are indexed.
- **Kruthi P.** presented a paper titled “Role-Aware Contrastive Graph Neural Network for Neural Network Analysis in Twitter Bot Detection” at ICIICS, conducted on February 2026 at Sharnbasva University, Kalaburagi. The conference proceedings are indexed.
- **Kruthi P.** presented a paper titled “Illumination-Guided Deep Learning Framework for Image Denoising in Low-Light Wireless Camera Systems” at ICWCIE, organized on February 2026 at Sharnbasva University, Kalaburagi. The conference proceedings are indexed.
- **Kavya M. S.** presented a paper titled “Federated Agentic RAG for Secure Tax and Financial Advisory” at the 17th International Conference on Recent Engineering and Technology (ICRET 2026), organized on May 2026 at Sai Vidya Institute of Technology, Bengaluru. The conference proceedings are indexed.

Resource Person

- **Dr. Sunitha R. and Prof. Pankaja R.** delivered a technical session on “Advanced Decentralized Applications and Smart Contracts” at Malnad College of Engineering, Hassan, on 22nd April 2026. The session provided participants with insights into decentralized application development, blockchain architecture and smart-contract technologies.
- **Prof. Kavya M. S.** served as a resource person for the session titled “Holistic Student Welfare and Academic Success” at Dhaanish Ahmed Institute of Technology, Coimbatore, on 10th March 2026. The session focused on student well-being, academic support practices and strategies for improving student success.
- **Session Chair** - Dr. Sheba Selvam, Professor and Head of the Department; Dr. Tejaswini R. Murgod, Professor; Dr. Nagarathna C. R., Associate Professor; Dr. Kakoli Bora, Associate Professor; Dr. Sunitha R., Associate Professor; and Dr. Mahanthasha U., Associate Professor, served as *Session Chairs at the International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE 2026), organized on January 2026 at BNM Institute of Technology, Bengaluru.*

Patent

- **Dr. Sunitha R., Kavya M. S., Poornima N., Pankaja R., Pavithra H. C., Abhilasha P. Kumar, Mohanesh B. M., and Halaharvi Keerthi** were granted a patent titled “AI-Based Device for Chemical Reaction Monitoring and Safety Control”, bearing Patent Number 486501-001. The patent was filed on 16th December 2025, published on 7th January 2026, and granted on 7th May 2026.

Book Published

- Dr. Nagarathna C. R. published a book chapter titled “Building Resilient and Privacy-Preserving Digital Health Ecosystems” in the book Building Resilient Digital Ecosystems: Security, Governance, and Transformation, published by IGI Global Scientific Publishing in 2026.

Student Achievements

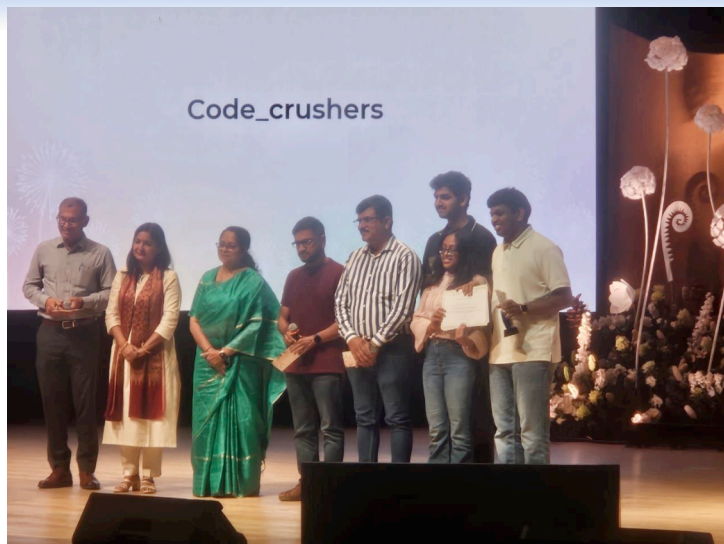
- **Archit Pragyesh and Gopal Krishna Aithal Y. J.**, of VI Semester, presented a paper titled “Dynamic Traffic Signal Control for Emergency Vehicle Priority in Urban Networks” at the 4th IEEE International Conference, held at B.N.M. Institute of Technology, Bengaluru, on 22nd–23rd January 2026.
- **Nischala G. S.** of VI Semester published a research paper titled “A Privacy-Preserving Multimodal Smart Mirror with Edge AI, Blockchain Security and Quantum-Inspired Optimization for Personalized Wellness” 22–23 January 2026 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE), Bengaluru, India.
- **Nischala G. S.**, a VI semester student, published a research paper titled “On Spectral Energy in Graph Networks” at the 3rd International Conference on Emerging Trends in Engineering and Medical Sciences (ICETEMS), held in Nagpur, India, on 14th April 2026.
- **Gopal Krishna Aithal Y J, Amoghadatta, Kota Himesh & M Saavarni**, of VI Semester, participated in Agentica 2.0 Hackathon held at IIIT Sri City on 26th to 28th March 2026. The event was held at IIIT Sri City, Chittoor, Andhra Pradesh. The team secured First Prize ₹50,000- Cash Prize.



- **Chiranth Yadalam & Jeet Bagdai**, of IV Semester, participated in CDSL Reimagine Ideathon 2026 hosted by Central Depository Services (India) Limited (CDSL) on 07-08 Feb 2026. The team secured 3rd prize ₹2,00,000 /-.



- **Madhugna Yelchuri, Charishma P D & Pallavi P Kundapur**, of IV Semester, presented their work at AI Powered Pharmacogenomic Risk Prediction for Precision Medicine at the National Conference on Emerging Trends and Technologies DSCE Bangalore on 14-03-2026. The team secured First Prize with a cash prize of ₹8000 /-.



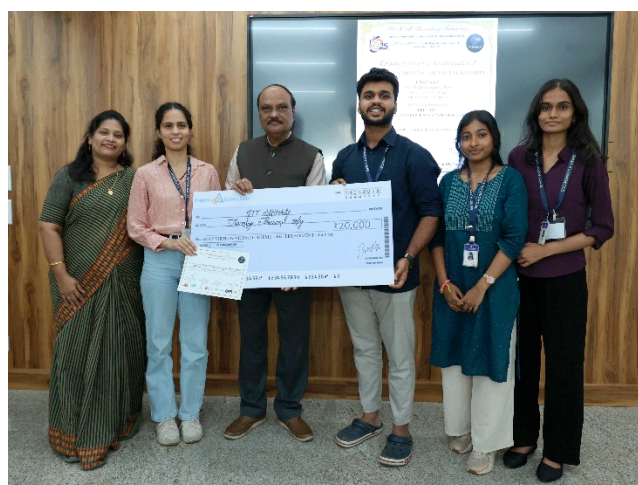
- Team “Code_Crushers”, **Nischala G. S.** (1BG22AI067), Tanmay Anand (1BG23CS168), Dimpana P. Jadhav (1BG23ME008), of VI semester and won the “Innovation for Education Equity Hackathon”, hosted by “ShikshaLokam”, The team received a cash prize of “₹1,50,000” for developing “Sahayak A”, an innovative just-in-time classroom coaching engine designed to support rural teachers and promote equitable access to quality education.

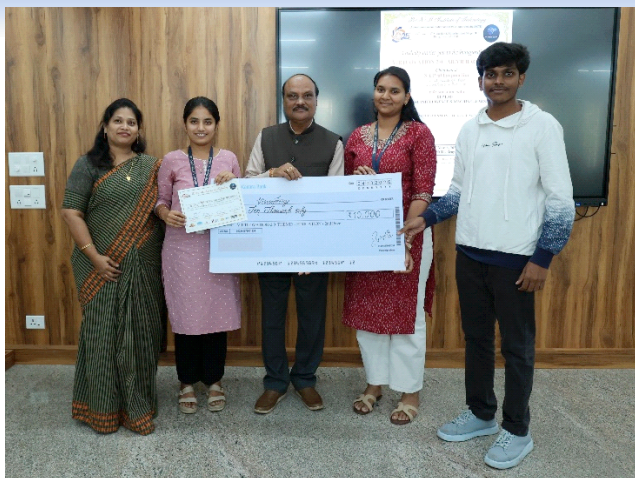
- **Prakya Kuncham & Kriti Raju Ijari**, of IV Semester, participated in Technical Event IndiAignite: Prototyping AI Solutions for Atmanirbhar Bharat at RVITM Bengaluru on 04-05 Feb 2026. The team achieved Second Prize. The team secured First Prize with a cash prize of ₹2000 /-.



- **Abhishek Girish Hegde, Nihar N & Deekshitha B.**, of VI Semester, participated in Team: Vyapar / Innovate4Impact Hackathon at IIIT Delhi RVCE Bangalore conducted during Bangalore Zonals of E-summit IIIT Delhi on 7-02-2026. The event was held at RV College of Engineering, Bengaluru. The team secured Third Position.

- **Sushmitha K Shetty, P Suraj Shenoy, Nikita R & Hema H A**, of VI Semester, participated in Virtuovation 2.0 AR / VR Hackthon in Theme Entertainment hosted by Dept. AIML organized at BNM Institute of Technology on 23rd, 24th March 2026. The event was held at B.N.M. Institute of Technology, Bengaluru. The team secured First place.





- **Bhabithanjali B K, Meghana L & Boya Hari Charan** of VI Semester, participated in Virtuovation 2.0 AR / VR Hackthon in Theme Education hosted by Dept. AIML held at BNM Institute of Technology on 23-24/03/2026. The event was organized at B.N.M. Institute of Technology, Bengaluru. The team secured Second Place.

- **M Saavarni, N Nihar, Varsha K M & Manasvi J**, of VI Semester, participated in Virtuovation 2.0 AR / VR Hackthon in Theme Entertainment hosted by Dept. AIML held at BNM Institute of Technology on 23-24 / 03 / 2026. The event was organized at B.N.M. Institute of Technology, Bengaluru. The team secured Second place.



- **Varshini S, Deekshitha B, Ahana**, of VI Semester, participated in Turinger 2026 Organised by the MITB ACM Student Chapter conducted at Manipal Institute of Technology 1st Feb 2026. The event was conducted at Manipal Institute of Technology, Manipal. The team secured 4th Place.
- **Sudeeksha H & Tanisha Shishir Yadapadithaya**, of VI Semester, participated in GENX AI-Generative AI Hackathon on healthcare and wellbeing hosted by Dept. AIML held at BNM Institute of Technology on 17-03-2026. The event was conducted at B.N.M. Institute of Technology, Bengaluru. The team secured First Place.
- **Ayesha Khanum, Ahana M, Deekshitha B** of VI Semester, participated in GENX AI-Generative AI Hackathon on healthcare and wellbeing hosted by Dept. AIML held at BNM Institute of Technology on 17-03-2026. The event was organized at B.N.M. Institute of Technology, Bengaluru. The team secured First Place.
- **Preetham H S**, of VI Semester, participated in GENX AI-Generative AI Hackathon on healthcare and wellbeing hosted by Dept. AIML held at BNM Institute of Technology on 17-03-2026. The event was conducted at B.N.M. Institute of Technology, Bengaluru. The student secured Second Place.
- **Skanda Bharadwaj G M, Sathvik Madhyastha & Sharanya. D.S**, of VI Semester, participated in GENX AI-Generative AI Hackathon on Education & Skill Development hosted by Dept. AIML held at BNM Institute of Technology on 17-03-2026. The event was organized at B.N.M. Institute of Technology, Bengaluru. The team secured First Place.
- **Sushmitha K Shetty & P Suraj Shenoy**, of VI Semester, participated in GENX AI-Generative AI Hackathon on Education & Skill Development hosted by Dept. AIML held at BNM Institute of Technology on 17-03-2026. The event was organized at B.N.M. Institute of Technology, Bengaluru. The team secured Second Place.

- **Rishitha P R, M Saavarni & Anarghya B Rao**, of VI Semester, participated in GENX AI-Generative AI Hackathon on sustainable cities and environment hosted by Dept. AIML held at BNM Institute of Technology on 17-03-2026. The event was conducted at B.N.M. Institute of Technology, Bengaluru. The team secured First Place.
- **Vibha Kashyap & Vedant Jain**, of VI Semester, participated in GENX AI-Generative AI Hackathon on sustainable cities and environment hosted by Dept. AIML held at BNM Institute of Technology on 17-03-2026. The event was conducted at B.N.M. Institute of Technology, Bengaluru. The team secured Second Place.
- **Lekhana R Prasad & Mimansha Singh**, of VI Semester, participated in GENX AI-Generative AI Hackathon on Social good, Ethics & governances hosted by Dept. AIML held at BNM Institute of Technology on 17-03-2026. The event was conducted at B.N.M. Institute of Technology, Bengaluru. The team secured Second Place.
- **Harshith S**, of VI Semester student, participated in a research internship at the National Institute of Technology on 23rd and 28th March 2026, where he worked on the applications of Machine Learning in gait analysis. He secured Second Place in the event.
- **T V Vydy Narayana Pandith**, of VI Semester, participated in Group Song Indian at VTU 25th State level Youth Festival “ACHARYA VTU HABBA2026” on 8th-11th April 2026. The event was organized at Acharya Institute of Technology, Bengaluru. The team secured First Place.
- **T V Vydy Narayana Pandith**, of VI Semester, participated in Folk Orchestra at VTU 25th State level Youth Festival “ACHARYA VTU HABBA2026” on 8th-11th April 2026. The event was organized at Acharya Institute of Technology, Bengaluru. The student secured First Place.
- Received student Project Fund for final year student two Project batch from KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY Indian Institute of Science Campus, Bengaluru – 560 012(KSCST), Indian Institute of Science Campus, Bengaluru, 49th series of Student Project Programme (SPP): 2025-26.

132.	49S_BE_5371	ALTOGETHER - FROM CODE-SWITCHING TO COMMUNITY MATCHING	B.E.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	Mr. MOHANESH B M	Mr. M HARSHITH Mr. MUSTKIM KHAN Mr. KAMAL KUMAR JANGIR	4,500.00
133.	49S_BE_6039	BLINDMATE - AN ASSISTIVE GUIDANCE SYSTEM	B.E.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	Mrs. KAVYA M S Mrs. ABHILASHA P K	Ms. MOKSHITHA N V Ms. MISBAH FATIMAH ANNIGERI Ms. MINCHANA A	4,500.00

Editorial Team

Faculty Members

- **Prof. Pankaja R**, Assistant Professor
Dept. of Artificial Intelligence and Machine Learning.
- **Prof. Shravya Gowda**, Assistant Professor
Dept. of Artificial Intelligence and Machine Learning.
- **Dr. Payal Mukherjee**, Assistant Professor
Dept. of of Humanities

Students

- **Nischala G S**, VII Sem, B- Section
- **Nihar N**, VII Sem, A- Section
- **M Saavarni**, VII Sem, A- Section
- **Prachi A Madihalli**, IV Sem, A-Section
- **Vishnu Bargav**, IV Sem, B-Section