



Krantiveer Vasant Rao Narayan Rao Naik Shikshan Prasarak Sanstha

LOKNETE GOPINATHJI MUNDE

INSTITUTE OF ENGINEERING EDUCATION & RESEARCH

Approved by AICTE, Accredited 'B' Grade By NAAC

Canada Corner, Sharanpur Road, Nashik 422 002



**Loknete Gopinathji
Munde, Institute of
Engineering and Research,
Nashik**

E-Magazine

'Arambh'

Academic Year: 2025-26

Semester-II

(FIRST YEAR ENGINEERING)

DEPARTMENT OF ENGINEERING SCIENCE

Where curiosity awakens...

Innovation begins...

ARAMBH



Volume 1 Issue: 2

ARAMBH Editorial Board

Academic Year 2025-2026

Our Inspiration



HON. LOKNETE SHREE. GOPINATHJI MUNDE

Department of Engineering Science

Vision

To empower diverse communities by instilling fundamental values of science through academic and technical excellence in engineering education

Mission

M1: To provide an inclusive, state-of-the-art learning environment that fosters excellence in engineering, science, and technology.

M2: To build scientific skills and intellectual capacity to tackle real-world challenges.

M3: To provide knowledge-based solutions for technological and social development.

Message from Principal



"An abiding trust in your abilities, a strong determination to never give up, and an unshakable belief in yourself are all you need to conquer the pinnacles of success"

Warm regards,

Dr. K. V. Chandratre
Principal

Message from HOD



I extend my heartfelt congratulations to the organizing committee and students for their remarkable contributions to this edition.

We are delighted to present the first edition of 'ARAMBH', which we believe will deeply resonate with you and offer valuable insights into the creativity and knowledge shared by the students of First Year Engineering.

ARAMBH is committed to providing a dynamic platform for emerging engineers to showcase their technical prowess and present their most creative and original ideas. We truly value your engagement with this edition and look forward to your continued support.

Dr. Sonali Mayuresh Akolkar
Head of Department

Editorial Note

It is with immense pride and enthusiasm that we present the inaugural edition of ARAMBH. This magazine marks not just a beginning, but a collective expression of creativity, innovation, and intellectual curiosity among the students of First-Year Engineering. ARAMBH serves as a platform where ideas take shape, technical knowledge meets imagination, and young engineers find their voice. From technical insights to creative expressions, this edition reflects the diverse talents and aspirations of our student community. We extend our sincere gratitude to our respected Principal, Head of Department, faculty members, and all contributors who have supported and guided us in bringing this vision to life. As we take this first step, we hope ARAMBH continues to inspire curiosity, encourage innovation, and foster a spirit of learning for years to come.

-The Editorial Board

ARAMBH

Academic Year 2025-2026

Editorial Board

Chief Editor

Dr. S. M. Akolkar (HOD)

Faculty Advisor

Dr. D. P. Upasani

Managing Editor (Student)

Omkar Sanap

Section Editor (Student)

Kaustubh Khandwe &

Aaditya Patil

Literary Editor (Student)

Lavanya Gaikwad

Design and Layout Lead (Student)

Chirag Dayama

Budding Talent of First Years...

Project DAEMON: 1st Prize in AI Hardware

In Techfest 2K26 organized by KVN Naik LoGMIEER, Nashik the Project DAEMON bridges the gap between code and the physical world by bringing advanced AI to custom-built, local hardware. Winning **1st Prize** was a massive validation of the intense development cycle, which required deep systems programming and complex circuit modifications. DAEMON proves that we can push the boundaries of deep tech, building state-of-the-art edge computing solutions that interact with the real world in real-time. This whole hardware and software was made by **Kunal Patil and Suraj Prajapati**, creative poster was made by **Aditi Kathe and Shravani Chavan**.



National Stage Success: The INDIA INNOVATES, New Delhi

Representing our college KVN Naik LoGMIEER, Nashik at the New Delhi Hackathon was a masterclass in rapid prototyping and high-pressure problem-solving. Competing against top engineering minds from across the country, our team successfully architected and deployed a highly scalable application during a gruelling sprint. Securing this national-level achievement highlights our ability to write production-ready code under extreme time constraints and proves our tech stack can compete with the best in India.



Techno Vista 2026 in CAD WAR and ROBORACE competition

Glad to inform that today our FE students team visited Matorshri Asarabai institute of technology and research centre to participate in Techno Vista 2026 in CAD WAR and ROBORACE competition, where FE mechanical CR *Siddharth Suryawanshi* and his team *Alpesh pagare and Bhavesh Aher* successfully secured Second Prize in CADWAR with trophy, certificate and cash prize. Heartiest congratulations to him for his great achievement. 🌸



Sudoku Showdown at TechFest 2K26

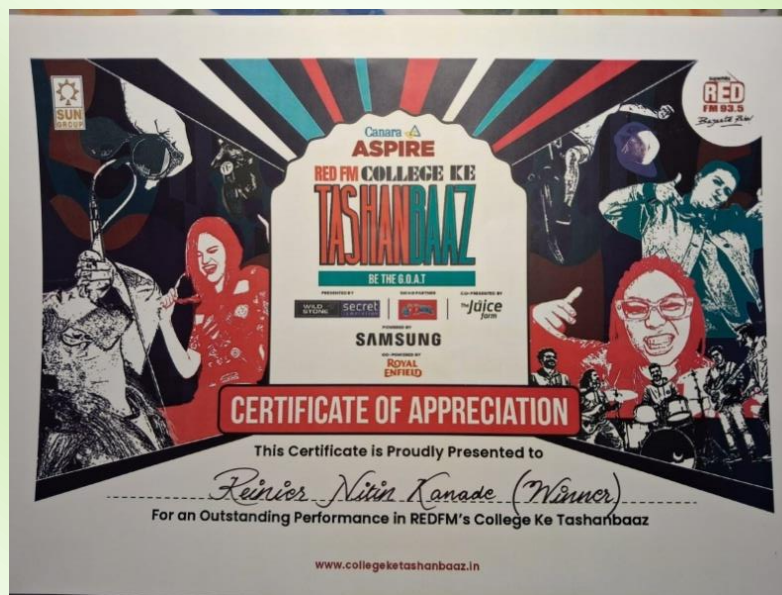
The excitement was at its peak during the Sudoku Competition held at KVN Naik Logmieeeer as part of the vibrant TechFest 2K26. The event witnessed enthusiastic participation from brilliant minds who showcased exceptional logical thinking, speed, and problem-solving abilities. First Prize was proudly secured by **Yash Rajendra Gulave** from Matoshri College, and Second Prize was achieved by **Nikhil Walke** from Division A of our college, demonstrating remarkable analytical skills and determination throughout the competition.

Heartiest congratulations to both winners for their commendable achievement and for making the event a grand success! 🌸



Intercollege Event Hosted by RED FM Team

Intercollege Event Hosted by RED FM Team which is sponsored by Samsung, which was held in Savvy Designing College, Nashik. As the Grand Finale Winner, our FE student from Div A, **Reiner Nitin Kanade** (AIML Engineering) have gotten a Certificate and along with it also won a Samsung Voucher for the phone Samsung Galaxy A17 5G. This event was hosted with 4 Colleges together and from those 4 colleges 1 Winner.



Road Safety Awareness Club was executed with the collaboration of Bosch and United way Mumbai.

The *Road Safety Awareness Club* was successfully organized in collaboration with Bosch and United Way Mumbai with the objective of spreading awareness about safe and responsible road practices among students. The program witnessed enthusiastic participation from the First Year Engineering students, who actively engaged in various activities and presented innovative ideas related to road safety, traffic discipline, accident prevention, and responsible citizen behaviour. Students showcased their creativity, teamwork, and communication skills through discussions and presentations. The active involvement and energetic participation of the students made the program highly successful and impactful.



UNITED WAY MUMBAI		BRACE		BOSCH	
Loknete Gopinathji Munde Institute of Engineering Education and Research					
COLLEGE NAME:		NSS PD NAME:			
ROAD SAFETY CLUB MEMBER:		NSS PD NAME:			
1. Shikhar Jain		2. Trishit Math		Prof. Dr. Sonali Hephesh Ankur	
3. Satyansh Kumbhar		4. Rishabh Bhosale		Prof. Dr. Datta B. Pawar	
5. Rishabh Bhosale		6. Subodh Gadhikar			
7. Prachi Nagawade		8. Subodh Tapse			
9. Shikhar Annurkar		10. Prachi Nibare			
ACTIVITIES CONDUCTED					
Observation of the National Day (15th August)					
• Students and teachers participated in a rally					
• Awarded 10 participants					
• Displayed posters and banners					
• Encouraged responsible road behavior					
Location: College in Dargam Chalk Chalk					
No. of Volunteers: 100					
Impact numbers: 10000					
Respect the Stop Line Activity					
• Conducted at Dargam Chalk Chalk					
• Awareness about respecting stop line					
• Drivers often cross stop line					
• Promoted pedestrian safety					
Location: Dargam Chalk Chalk					
No. of Volunteers: 100					
Impact numbers: 10000					
Road Safety Awareness Rally					
• Conducted at Dargam Chalk Chalk					
• Promoted helmet use for riders					
• Highlighted the importance of road safety					
• Replaced helmet after strong impact					
Location: Dargam Chalk Chalk					
No. of Volunteers: 100					
Impact numbers: 10000					
ANY KEY HIGHLIGHT					
The activities were successfully conducted with active participation from students, making the awareness campaign more impactful. A Traffic Police Officer was present at the site, who guided the students and shared valuable insights about road safety rules and responsible driving. He also encouraged the participants and distributed road safety badges to appreciate their efforts. The guidance from the traffic police made the campaign more informative and motivating for everyone involved.					



Heartiest Congratulations



Kunal Patil (FE B Div) and team of senior students of KVN Naik LoGMIEER, Nashik for cracking round 1 consisting of 52000+ entries for *OpenEnv AI Hackathon* a developer event hosted by 'Meta' in collaboration with PyTorch and Hugging Face. The team has been selected for Grand Finale (in person) to be held at Bangalore during 25-26 April 2026. All the best for their innovative journey!!

Glad to share that our FE students team consisting of Div B (Computer Engineering) students ****Kunal Patil & Suraj Prajapati**** have once again been appreciated for their innovation talent after successfully clearing initial screening round and qualified for next round in *Smart India International Hackathon* organized by Horizon College of Engineering-Bengaluru (Karnataka).

Congratulations Team & Best Wishes for Future Endeavors!!



Art Speaks where words fail...



Shraddha Bastiram Avhad

Roll no: 06

FE: Div F (Mechanical)



Shruti Amrutkar

Roll No: 03

FE: Div E (Electrical)

Only Focus your
* Achieved Success..

Page No.
Date

चम मज लागू हे तयारीना
नाव सूर्य तयाचा आज सुगवतीय
पानांची सळसळार अन नद्यांची कळकळार
कानात गुंजन जणू मज यशाची सुकाळ हाववतीय.

मायेचा हात आहे लुख्या डोक्यावर
अन छायेची हा आप आहे लुख्या संग्रावर
हो निडर, निर्भय खुब्यार
मनात अन कलाकावर हो पेडुनी मळण्याची फिरा
कोणाकडून हो ठेवू नको आशा

आज करेकन उठ्या हाववेन
सुसोडून हे या स्वच्छा
आज करेन अन आजच हाववेन
हो सुगवतीना या सुनिच्छा.

डोळे बंद मिटवून आठव उठ्याचें अविध्य
चम मज लागू तयारीना
येक हे आर्क्ष-वडिनांच्या चेहऱ्यावर हावय...

कमी समजू नको तू स्वतःना
तूच आहे शिवाजी तूच आहे जिजाऊ तूच आहे
आंबेडकर तूच आहे रमाई...

अरे दगच्या बाहेर बसूनही शिकना
अन जगाचा शिक्क्याकार आना
आठव वेड्या या महानायकाचे चरित्र
हो मळण्या-मिडण्याची सापथ
कर तसेच लुखी चरित्र

Nilam Nirbhavane

Roll No: 31

FE: Div B (Computer)

This is a short meaningful
Song / Poem
between two benchpartners

Questions to solve hojate hai
lekin formulae yaad aate hi nhi
Assignments se page bhar jaate hai
lekin Concept to samajhte hi nhi
Time table to yaad hojata h par,
Kabhi Time par pahuchte hi nhi,
Is it Just me or its you too
Na jaanu mai Na jaane tu.

Is it Just me me me me
or its you to
Na Janu mai Na jaanu tu

Zindagi ki lekhaaye h Kharab
par chahiye Graphics ki full marks
Mechanics mein tension Nikalti Nikalti
Mujko baithi h tension mere yaar

Is it Just me ~~me me me~~ ~~or its you too~~
or its you too...
Na janu mein Na janu tu.

Shriom Jairaj

Roll No: 19

FE: Div A (AIML)

The spark of original genius...

THE MODERN GEAR

Redefining Mechanical Engineering in 2026

For decades, the image of a mechanical engineer was synonymous with hard hats, grease-stained blueprints, and the rhythmic clanging of heavy machinery. But as we navigate 2026, that image is undergoing a high-tech facelift. Today's mechanical engineering is less about just "moving parts" and more about intelligent systems, sustainable loops, and the seamless fusion of the digital and physical worlds.

The Rise of "Physical AI" and Agentic Robotics

Robotics is no longer just about programmed repetition on an assembly line. In 2026, we are seeing the rise of Physical AI—the integration of advanced neural networks directly into hardware. Humanoid Versatility.

Humanoid robots are now being deployed in warehouses to fill labor gaps, performing tasks designed for human dexterity. Unlike traditional robots, new Agentic AI systems allow machines to observe their environment and learn from mistakes in real-time.

Digital Twins: The Mirror Universe

The concept of the Digital Twin—a high-fidelity virtual replica of a physical asset—has matured into an

industry standard. By linking real-world sensors to a virtual model via the IoT, engineers can predict a machine's failure before it even happens.

Additive Manufacturing2.0

3D printing has entered the era of Main line Additive Manufacturing. Engineers now use AI for Generative Design, creating bone-like structures that are incredibly light yet stronger than traditional designs, using recycled metals and bio-polymers.

The Green Transition

Sustainability is the heartbeat of 2026's engineering landscape. Mechanical engineers are at the forefront of the Green Value Chain, designing systems for Hydrogen Power and Circularity—ensuring that at the end of a life cycle, every component can be recycled.

The Take away:

Mechanical engineering is not being replaced by software—it is being empowered by it. As the lines between bits and atoms continue to blur, the engineers who thrive will be those who can speak the languages of both mechanical physics and digital intelligence.

©2026 Engineering Trends Quarterly | Tech Insights Division

Name : Tejaswini Vijay bhamre

Roll no. : 11

FE: Div F (Mechanical)

The Architecture of Agentic AI

When you type a question into ChatGPT, Gemini you're not watching intelligence. You're watching an extraordinarily sophisticated autocomplete engine predict, word by word, the most plausible next token. No thinking. No goals. No memory of yesterday. Just statistics at a planetary scale. That was enough to astonish the world in 2022. But the real question engineers started asking wasn't *"how do we make this chatbot smarter?"* It was far more ambitious: *What if the AI could actually do things?* Not just answer, but plan, act, check its own work, and finish a job that takes hours. Instead of treating this as a theoretical question, i built the answer. In developing DAEMON, we engineered a system that pulls AI out of the browser and gives it physical execution capabilities. DAEMON is an edge based agentic system running on custom hardware architecture to bridge the hardware software gap, we designed the system to take raw auditory input via an digital microphone, process the intent, and autonomously control device hardware. You give DAEMON a command, and it doesn't just generate a text reply it formulates a plan, triggers APIs, and executes physical state changes on the machine without further human intervention. That localized, autonomous execution is the defining characteristic of Agentic AI.

The Problem with Chatbots: Frozen in Time:

A classic Large Language Model (LLM) is a stateless function. Input tokens in, output tokens out. Between calls, it doesn't exist. Every conversation is a fresh start unless the application stitches a memory together manually. This is the context window the finite amount of text the model can "see" at once. The moment that window closes, its reality is wiped.

To break through this wall, researchers didn't just make the models bigger. They changed the architecture around them.

The Difference between Answering and Doing:

In AI, an agent isn't just a model that talks. It's an AI embedded in a runtime loop: it perceives its environment, decides what to do, acts using external tools, observes the result, and repeats until the goal is reached. When you ask a chatbot, "Fix the bug in my code," it tells you *how* to fix it. When you ask an agent, it opens your GitHub repo, reads the files, writes a fix, runs the tests, and commits the code. Same underlying model. Completely different architectural outcome.

The Core Loop: Perceive → Plan → Act → Reflect

Every agentic system runs on a variation of this fundamental loop, most commonly known as the ReAct (Reason + Act) framework:

1. Perceive: The agent reads its full context your goal, its past steps, and tool outputs.

2. Plan: The model generates an explicit, step-by-step plan. The act of writing the plan *is* the computational mechanism for thinking.

3. Act: The model calls a tool. Instead of conversational text, it outputs a structured JSON payload (e.g., {"tool": "run_tests", "file": "auth.py"}).

4. Observe & Reflect: The result (a passed test or an error log) is fed back into the context window. The model self-critiques, revises its plan, and iterates.

Engineering Memory .Because LLMs are natively stateless, memory in an agent is an external engineering solution:

Working Memory: The immediate context window (fast, perfect, but limited).

Long-Term Memory: Implemented via Vector Databases. Text is converted into high dimensional numerical vectors. When an agent needs to remember something, it searches this database by semantic similarity,

not exact keywords. It's fuzzy, meaning based retrieval. you might have experienced this when chat GPT give you reference from your old chats.

Multi-Agent Orchestration Single agents are powerful, but the true frontier is multi-agent networks. The architecture mirrors a tech company: an "orchestrator" agent breaks down a complex goal and delegates sub-tasks to specialists (e.g., a coder agent, a researcher agent, a tester agent). Take Devin, the autonomous AI software engineer. It doesn't just generate text; it operates inside a sandboxed terminal, installs dependencies, reads error logs, and iterates until the build passes. It is an entire ecosystem of specialized models interacting with each other to solve a single problem. We is just getting started, and we have a great future ahead. For me, and for everyone else who loves building autonomous systems, it is an incredibly exciting time."

Kunal D Patil

Roll No: 39

FE: Div B (Computer)

The Identity Paradox: Why Zero Trust is the Only Shield against AI Social Engineering

In January 2024, a finance professional authorized a \$25 million transfer after a video call with his CFO and colleagues. The devastating truth? Everyone on that screen, except the victim, was an AI deepfake.

This is the modern cybercrime template. We have transitioned from an era in which attackers "break into" systems through software vulnerabilities to one in which they "manufacture trust" so convincingly that authorized users willingly open the gates. The traditional "castle and moat" perimeter is dead. With Large Language Models (LLMs) bypassing legacy security filters at a staggering 16.4% evasion rate, the human mind is now the primary attack surface.

Decision Compression & The Human Exploit The most sophisticated threat today is the Synthetic Trust Attack Model (STAM). Attackers use multi-channel orchestration—sequencing fake emails, deepfake video calls, and encrypted messages—to bundle identity and institutional cues into an overwhelming package.

This relies on Decision Compression: the deliberate collapsing of a victim's verification window. By forcing rapid interactions across multiple channels, attackers trigger a psychological shift from slow, deliberative thinking into fast, automatic processing. Under social pressure, skepticism is neutralized.

“Zero Trust Architecture doesn't care about bloodlines.”

Identity as the New Perimeter Because human cognition will inevitably fail under the pressure of manufactured certainty, our architecture must pivot to a Zero Trust Architecture (ZTA).

ZTA assumes the network is perpetually hostile. The access boundary is no longer a physical network location; instead, we must adopt *Identity-as-the-Perimeter*, where the "firewall" is the strict cryptographic authentication of individual users, utilizing an "Assume Breach" mentality to isolate lateral movement.

***Continuous Adaptive Trust (CAT)* To secure this perimeter, organizations are replacing one-time logins with Continuous Adaptive Trust (CAT). CAT defends against hijacked sessions through Behavioral Biometrics—passively monitoring keystroke dynamics and mouse trajectories. If an AI bot or Adversary-in-the-Middle (AitM) proxy hijacks a session, it cannot replicate human hesitation. The moment the interaction deviates from the legitimate user's neurobiological baseline, CAT instantly revokes access.**

***"Calm, Check, Confirm"* The technical brilliance of a deepfake is ultimately a distraction; the real threat is the manipulation of human psychology. To survive, we must pair Zero Trust networks with strict Out-of-Band (OOB) Verification—requiring that any sensitive request be confirmed via a completely independent channel. In a world where trust can be synthesized in real-time, we must fiercely protect the one thing AI cannot simulate: the rigorous, independent verification of the human mind.**

Suraj Prajapati

Roll No: 46

FE: Div B (Computer)