



VISION AND MISSION OF THE INSTITUTION

Vision

To be one of the premier Institutes of Engineering and Management education in the country

Mission

- To provide Engineering and Management education that meets the needs of human resources in the country
- To develop leadership qualities, team spirit and concern for environment in students

Objectives

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

VISION AND MISSION OF THE DEPARTMENT

Vision

To be a premier department of learning in Information Science and Engineering in the state of Karnataka, moulding students into professional Engineers

Mission

- Provide teaching-learning process that develops core competencies in Information Science and Engineering to meet the needs of the industry and higher education
- Create an environment for innovative thinking and self-learning to address the challenges of changing technology
- Provide an environment to build team spirit and leadership qualities to succeed in professional career
- Empathize with the societal needs and environmental concerns in Information Science and Engineering practices

Dedicated to



Heroes of Operation Sindoor

MiliTech

Artificial intelligence transforms modern warfare by accelerating decision-making, automating surveillance, and strengthening autonomous weapons. It processes massive streams of battlefield data faster than humans, shifting military advantage towards speed, algorithmic precision, and networked machine coordination.



B. N. M. Institute of Technology

An Autonomous Institution under VTU.

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Technology and the Future of Warfare

In today's digital era, military technology is evolving rapidly, transforming warfare from traditional combat into a battle driven by intelligence, automation, and cyber power. Militech is developing faster than military weapons themselves. Everywhere across Europe and Asia, countries are coming up with smart systems to improve their battlefield awareness and decision-making processes.

Artificial intelligence is the most powerful weapon in the military arsenal. AI-powered surveillance can comb through massive quantities of data, in real time, to identify threats quickly and help commanders make better decisions. Autonomous drones and robots now perform reconnaissance, border patrol, targeting and other missions that don't require soldiers to be in harm's way. These AI tools can communicate more quickly and effectively, operate more efficiently and save lives in the process. Military drones in particular have revolutionized the battlefield, providing fire support in otherwise inhospitable terrain, highly accurate intelligence and precision strikes.

The other aspect that became part of warfare was cyberspace after realizing that computer systems were open to attacks. Digital networks are currently used by modern armies and the need for cybersecurity becomes important to protect the military secrets. It is our desire to have our military equipped with the best technologies. However, we need to ensure that these developments contribute to our safety and not insecurity.

Suhani B A,
1BG24IS055,
IV Semester, ISE

Towards Defence Self-Reliance: Strengthening India's Future Warfare Capabilities

India is rapidly advancing in military technology through indigenous innovations in artificial intelligence, autonomous systems, cyber warfare, and next-generation combat platforms. Projects such as the KAAL Bhairava UCAV highlight the nation's growing focus on AI-enabled unmanned combat aviation.

Along with advanced defence systems like the Arjun MK-1A tank, Zorawar light tank, ATAGS artillery gun, K9 Vajra, and the jointly developed India-Russia supersonic BrahMos missile—known for its exceptional speed and precision strike capability—India is also strengthening its drone warfare capabilities through systems such as the TAPAS-BH-201 unmanned aerial vehicle, Rudrastra, Netra, Lakshya, Nishant, and the Nagastra-1 loitering munition drone. The Nagastra-1 enables real-time surveillance and precision strikes only after target confirmation, thereby reducing collateral damage.

The development of drone swarm technology, where multiple AI-enabled drones operate in coordination for surveillance and combat missions, reflects the future of autonomous warfare. Emerging futuristic projects like DURGA II directed-energy weapons, along with the AMCA fifth-generation stealth fighter, demonstrate India's long-term vision for technologically advanced and self-reliant defence capabilities. Overall, increased defence allocations and investment in AI-driven systems underline India's strategic focus on future warfare preparedness and global defence competitiveness.

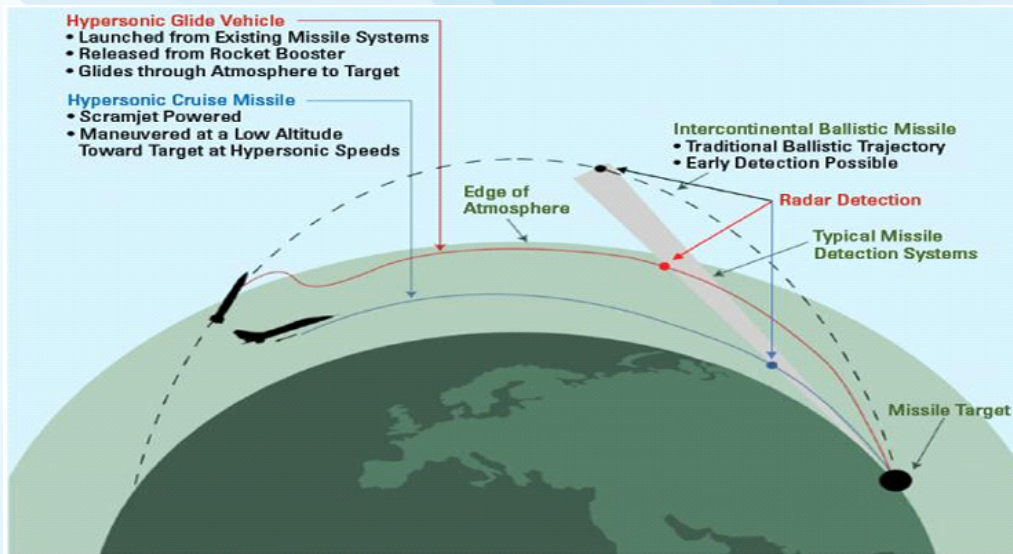
Prarthana B,
1BG24IS040,
IV Semester, ISE

The Age of Hypersonic Weapons

Modern warfare is undergoing a paradigm shift driven by the maturation of hypersonic weaponry. Traveling at speeds exceeding Mach 5 (five times the speed of sound), these systems fundamentally challenge legacy air defense architectures by combining extreme velocity with unprecedented maneuverability. Militaries are leveraging two distinct technological pathways:

- Hypersonic Glide Vehicles (HGVs): Launched from existing missile systems via rocket boosters toward into the upper atmosphere, HGVs detach to glide and maneuver unpredictably through the atmosphere their targets, skipping along the edge of space.
- Hypersonic Cruise Missiles (HCMs): Powered by advanced air-breathing scramjet (supersonic combusting ramjet) engines, these weapons are maneuvered at low altitudes, maintaining sustained, powered propulsion at hypersonic speeds throughout their flight duration.

The Tactical Disruption: Traditional missile defense architectures rely on tracking predictable parabolic trajectories to calculate interception points. Hypersonic military technology disrupts this entirely. These vehicles can alter course mid-flight within the atmosphere so they effectively evade radar detection horizons until the final moments of



engagement. Strategic Impact: By compressing military decision-making windows from hours to mere minutes, hypersonic technology renders standard mid-course interception capabilities largely obsolete, making it the defining frontier of contemporary defence engineering.

Prerana H,
1BG24IS042,
IV Semester,ISE

Drone Warfare: The New Eyes of the Battlefield

Drones have become one of the most powerful symbols of modern military technology. Once used mainly for surveillance, they are now transforming the battlefield by helping defence forces observe, track, communicate and respond with greater speed and accuracy. From border monitoring to rescue missions and precision strikes, drones act as the “eyes in the sky” for commanders on the ground.



One of the biggest advantages of drones is their ability to enter dangerous zones without risking human lives. Equipped with high-resolution cameras, thermal sensors, GPS and AI-based tracking systems, drones can collect real-time information from areas that are difficult or unsafe for soldiers to access. This helps military teams detect enemy movement, monitor terrain and make faster decisions during critical operations.

Recent conflicts have shown how low-cost drones can create a major impact in warfare. Analysts note that Ukraine's battlefield has pushed drone warfare toward

affordable, adaptable and quickly deployable systems rather than depending only on expensive traditional weapons. Counter-drone systems have also become important, as militaries now need to detect, jam or destroy hostile drones before they cause damage.

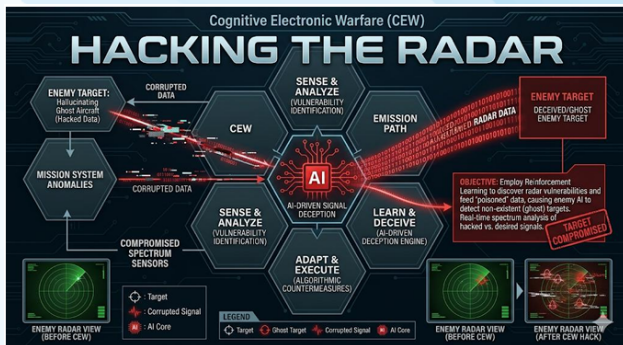
In the new age of defence, victory is not only about strength; it is about vision, speed and intelligence. Drones give the military a powerful advantage by turning the sky into a smart, connected and watchful shield.

“In modern warfare, the drone is not just a machine — it is the battlefield's eye, ear and silent messenger.”

Sinchana Bhargav K A,
1BG24IS051,
IV Semester,ISE

Hacking the Radar: The Rise of Cognitive Warfare

The concept of Electronic Warfare is undergoing a quiet but radical evolution. For decades, military jamming relied on brute force—flooding enemy airwaves with raw noise to blind their radar. However, as modern militaries transition to multi-function, frequency-agile radar systems, static jamming databases are becoming obsolete. The future belongs to Cognitive Electronic Warfare (CEW). Driven by advanced Machine Learning and Reinforcement Learning, CEW systems don't just jam; they learn. Operating directly on tactical-edge hardware like Radio Frequency Systems on Chip (RFSoc), these intelligent algorithms analyse completely unknown enemy signals in real time, instantly map their vulnerabilities, and orchestrate precise algorithmic counters. Rather than blinding an adversary, CEW subtly poisons their data streams, causing enemy artificial intelligence to hallucinate false targets while believing its sensors are



perfectly clear. By shifting the battlefield from raw power to cognitive supremacy, CEW is redefining decision advantage in 21st-century warfare.

Preethi Maria Dmello,
1BG24IS04,
IV Semester,ISE

AI-Augmented Decision Making in Military Technology

Artificial intelligence is becoming a key part of modern military operations. Defense leaders are increasingly using AI to process large volumes of data, improve situational awareness, and help commanders make faster, more informed decisions under pressure. One of the biggest advantages of AI in defense is speed. AI systems can quickly analyze intelligence feeds, surveillance data, logistics updates, and maintenance reports, turning raw information into usable insights much faster than manual methods. This helps military teams respond more rapidly in complex and changing environments. AI is also improving mission planning and readiness. It can help predict equipment failures, support supply decisions, and reduce time spent on routine administrative tasks, allowing personnel to focus on higher-value operational work. In practice, this means stronger readiness and better use of resources. At



the same time, military AI must be used carefully. Experts emphasize the need for training, certification, and clear human oversight so that AI supports decision-making without replacing accountability. Security, trust, and responsible deployment remain essential as defense organizations move toward AI-first operations.

The future of military technology is not just about smarter weapons. It is about smarter decisions, faster response times, and more resilient operations powered by AI.

Disha K Goudra,
1BG24IS024,
IV Semester,ISE

Cyber Warfare: The Invisible Battlefield

In the modern era, warfare is no longer confined to physical battlefields. A new kind of conflict is being waged silently across digital networks one that can cripple nations without firing a single bullet. Cyber warfare has emerged as one of the most powerful and disruptive forces in contemporary military strategy, transforming how countries attack, defend, and compete for global power.



At its core, cyber warfare involves the use of digital attacks by one nation or group to damage or disrupt the computer systems, networks, and infrastructure of another. These attacks can target power grids, financial systems, military communications, and government databases. Unlike conventional warfare, cyber attacks are often invisible, leaving victims scrambling to identify the source while critical systems fail silently in the background.

Defense against cyber threats demands constant innovation. Nations are now investing heavily in cybersecurity infrastructure, training specialized cyber defense units, and developing advanced intrusion

detection systems. Information Science and Engineering plays a central role here from building secure communication protocols to designing AI-powered threat detection systems that can identify and neutralize attacks in real time. As cyber warfare continues to evolve, the line between military and civilian targets is becoming increasingly blurred. The protection of critical national infrastructure is now as important as defending physical borders. Ethical guidelines, international cyber treaties, and responsible disclosure policies are urgently needed to govern this invisible battle field.

B G Megha Hebbar,
1BG24IS013,
IV Semester,ISE

Puzzle

MilTech Word Search

Military + Technology | 18 hidden words | Words run across, down, diagonally and backwards

Hints

1. Air traffic controllers tracking an aircraft hundreds of kilometres away through thick cloud.

Hint: Radio echo detection

2. A warship locating a submarine by listening for echoes returning through the water.

Hint: Sound ranging

3. Terrain maps of a target area built by sweeping it with rapid laser pulses.

Hint: Laser scanning

4. A reconnaissance aircraft flying a twelve-hour mission with no pilot on board.

Hint: Unmanned flight

5. An aircraft shaped and coated so that enemy radar screens stay almost empty.

Hint: Low observability

6. A patrol knowing its exact position in an unmapped desert with no landmarks in sight.

Hint: Orbiting reference

7. Field radio traffic that sounds like meaningless noise to anyone listening in.

Hint: Coded secrecy

8. A sentry spotting a hidden figure on a moonless night purely by its body heat.

Hint: Heat imaging

9. A seeker head homing in on

the hot exhaust plume of a jet engine.

Hint: Invisible light band

10. A soldier carrying a heavy load over rough ground for hours without tiring.

Hint: Powered wearable frame

11. Enemy communication channels suddenly filled with useless static.

Hint: Deliberate signal flooding

12. Engineers reading a test rocket's speed and temperature while it is still in flight.

Hint: Remote measurement

13. A long-range projectile coasting along a fixed arc after its motor burns out.

Hint: Unpowered trajectory

14. A missile knowing which way it is pointing without any outside signal.

Hint: Spin-based orientation

15. Pilots rehearsing an engine failure again and again without ever leaving the ground.

Hint: Virtual training

16. An armored column dissolving into the treeline when viewed from the air.

Hint: Visual blending

17. A base gate that opens only for a recognized fingerprint or iris.

Hint: Body-based identity

18. An underwater weapon steering itself toward a ship's hull after launch.

Hint: Self-guided run

Solution

R	W	O	I	E	R	X	O	D	E	P	R	O	T	Z
O	H	S	D	P	A	K	J	A	M	M	I	N	G	A
T	C	A	A	O	D	R	O	N	E	U	S	D	R	A
A	I	T	M	C	I	V	G	N	X	T	E	E	A	Q
L	R	H	H	S	L	Y	O	P	E	G	S	R	T	R
U	T	E	H	O	L	H	V	A	A	O	H	A	E	Y
M	E	R	O	R	J	A	L	L	N	N	R	R	L	U
I	M	M	D	Y	F	T	F	A	U	X	J	F	E	D
S	O	A	X	G	H	U	R	A	D	A	R	N	M	K
X	I	L	W	Q	O	N	Q	V	G	J	J	I	E	S
P	B	Q	M	M	S	S	A	T	E	L	L	I	T	E
B	P	H	A	X	Z	M	N	V	F	L	R	W	R	Y
V	X	C	L	B	A	L	L	I	S	T	I	C	Y	C
O	V	Q	E	X	O	S	K	E	L	E	T	O	N	D
Y	N	O	I	T	P	Y	R	C	N	E	F	Q	M	L

Answer Key

18. TORPEDO — Self-guided run
17. BIOMETRIC — Body-based identity
16. CAMOUFLAGE — Visual blending
15. SIMULATOR — Virtual training
14. GYROSCOPE — Spin-based orientation
13. BALLISTIC — Unpowered trajectory
12. TELEMETRY — Remote measurement
11. JAMMING — Deliberate signal flooding
10. EXOSKELETON — Powered wearable frame

9. INFRARED — Invisible light band
8. THERMAL — Heat imaging
7. ENCRYPTION — Coded secrecy
6. SATELLITE — Orbiting reference
5. STEALTH — Low observability
4. DRONE — Unmanned flight
3. LIDAR — Laser scanning
2. SONAR — Sound ranging
1. RADAR — Radio echo detection

Event Details



Workshop on “Enhancing Student Interaction and Engagement in Classrooms” conducted for faculties and students on 2nd February 2026 by Dr. S. R. Subramanya, President and CEO-Exskillence, Professor, National University, San Diego, USA. The speaker gave an input on improving student interaction in the classroom



Six days-Hybrid FEP on “AI and Gen AI: Engineering the Intelligent” In association with ‘Infosys Springboard’ conducted from 6th to 13th April 2026 by the speakers Mr. Vinay Vasanth, Specialist-Learning, Infosys Springboard and Ms. Aishwarya Rajeev, Senior Analyst- Learning, Infosys Springboard.



Workshop on “Market Fit, Prototype/ Process Design and MVP Development” conducted for 4th semester students on 20th May 2026 by Mr. Rohit Kurpad, Multi Venture Operator. The speaker spoke on prototype Design and Development.



Talk on “From Idea to Impact: Writing Research Papers and Proposals That Stand Out” conducted for 7th semester students on 3rd June 2026 by Dr. M. S. Bhargavi, Associate Professor, Dept. of CSE, BIT. The speaker elaborated on research papers and proposals.



Organised “HACKTHON 2026” on 15th July 2026 for intra department students. Students presented their projects to the guest Naveen Sarawgi Director & CEO, Bimal Auto Agency India Pvt. Ltd., and Founder & Director, Carverse Mobility Solutions Pvt. Ltd., who shared valuable insights on innovation, entrepreneurship, and the evolving automotive technology.



Industrial visit to TVS on 16th February 2026 for 4th semester students. The industry visit provided students with practical insights into automobile manufacturing processes, quality control systems, and industrial production management. Students observed modern manufacturing techniques, production workflows, and quality assurance practices used in the automotive industry. The visit enhanced their understanding of industrial operations and bridged the gap between theoretical concepts and real-world manufacturing environments.



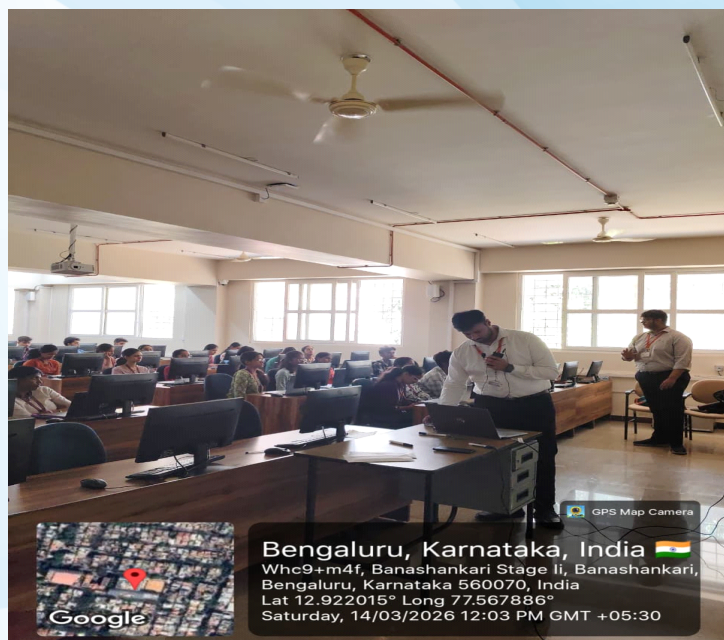
Industrial visit to Infosys, Mysuru on 5th March 2026 for 4th semester students. The industry visit provided students with valuable exposure to software development practices, IT industry culture, and emerging technologies. Students gained insights into real-world software development processes, workplace practices, and current industry trends. The visit helped bridge the gap between academic learning and practical industry requirements while enhancing students' awareness of career opportunities in the IT sector.



Workshop on “Copilot Foundation” was conducted for 4th semester students on 10th March 2026 by Mr. Subhra Prakash, Senior Research Associate, CloudThat. The speaker explained various concepts related to Artificial Intelligence and modern AI tools. During the session, he introduced Microsoft Copilot and discussed how it can be used to assist developers and improve productivity.



Inauguration of “BNMIT IEEE Information Theory Society”, A Student Branch Chapter in association with IEEE Bangalore section, on 5th June 2026. Inaugurated by the guest Dr. Ambar Bajpai, Chair, IEEE ITS, Bangalore Chapter, Associate Professor, Dept., of EE&CE, GITAM, Bengaluru.



Workshop on “Git Started: Hands on with GitHub” was conducted for 4th semester students on 14th March 2026 by Mr. Shreesha M Rao, Freelancer and Mr. Ashwin Mysore, Intern at PWC. The session aimed to provide both theoretical understanding and practical exposure to Git, a distributed version control system, and GitHub, a cloud based hosting platform for managing Git repositories.



Organised “Project Exhibition 2026” on 11th July 2026 for intra department students. Students presented their projects to the guest Krishna Chaitanya, Chief Manager, Aumovio SE India Ltd., Bangalore and Dr. V Mareeswari, Professor & HOD, Dept. of CSE, AMC Engineering College, Bangalore. This exhibition showcased the innovation, creativity, and technical excellence of our VIII Semester ISE students, who demonstrated cutting-edge projects addressing real-world challenges.

Staff Achievements

Awards

1. **Dr. S. Srividhya**, Professor & Head and **Dr. Jagruthi H**, Associate Professor, Department of ISE, Elevated to IEEE Senior Members , A distinguished recognition of professional excellence, significant contributions, and sustained commitment to the field of Engineering and Technology.

Journal Publications

1. **Dr. Srividhya, Shravya AR**, Occlusion Adaptive Motion Estimation Techniques for Aerial Object Tracking: A Comprehensive Review, DOI:10.12928/biste.v8i2.13821530, Buletin Ilmiah Sarjana Teknik Elektro Vol. 8, No. 2, April 2026, pp. 530-547 ISSN: 2685-9572.
2. **Dr. Srividhya, Shravya AR**, An Automated Object Detection and Tracking System in Surveillance Aerial Images Using 3D Adaptive Multi-Dilated Yolov8 With Attention Mechanism, Transactions on Emerging Telecommunications Technologies, 2026; 37:e70392, (Q3 Journal).
3. **Nidhi P Naik, Sanjana R, Vishwas Bhusnoor, Dr. Jagruthi H** “Digital Restoration of Indian Traditional Paintings” in IJERT, Volume 15, Issue 05, May 2026.

4. **B S Ullas, Kartikey Joshi , Shashwath D U , Dr. Jagruthi H** “Biometric - Based Payment for Microtransaction using elliptic Curve Cryptography” in IJERT, Volume 15, Issue 05, May 2026.
5. **Anusha Sanjana, Divyashree V, Dr. Jagruthi H** “PawSync: Smart Automatic Pet Feeder” Published by: International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, An International Peer-Reviewed Journal Vol. 15 Issue 05, May – 2026.

Conference Publications

1. **Dr. S Srividhya**, presented a paper titled “Secure cloud storage with blockchain and machine learning – Based Intrusion Detection”, in the 6th International Conference on Expert Clouds and applications (ICOECA – 2026) held at R V college of Engineering on 9th – 11th March 2026.
2. **Dr. S Srividhya, Shriyan P, Priya K P, Saniya**, Sign Bridge: Real-Time AI-Based Sign Language Translator for 3rd International Conference on Integrated Intelligence and Communication Systems (ICIICS - 2026) Organized by Sharnbasva University, Kalaburagi, 20-21 February 2026.
3. **Moulya Srivathsa, Suhas C Patel, Dr. Saritha Chakrasali**, “NoFakeChain: AI and Blockchain-Powered Deep fake Evidence Registry” National Level IPR Conclave held on 16th April 2026, at RV Institute of Technology & Management, Bangalore. AIKYAN 2026.
4. **Dr. Jagruthi H, Ms. Kavya N L**, Privacy-Preserving Hybrid Machine Learning Approach for Real-Time Phishing Website Detection, 1st International Conference on Innovation and Growth In Next-Gen Intelligent Technology & Engineering (IGNITE-2026), organized by K J College of Engineering and Management Research, Pune during 17th to 19th June 2026.
5. **Dr. Laxmi V, Shreedevi S Ronihal., Gagan S.V., Manoj Y.G., Shivashankara M.B.**, "AI-Driven: Verifiable and Decentralized Framework for Fake-Feedback Detection in E-Commerce" International Conference on Integrated Intelligence and Communication Systems (ICIICS - 2026) Organized by Sharnbasva University, Kalaburagi, 20-21 February 2026.
6. **Dr. Laxmi V, Kavana C.M, Divyashree S, Sufiyan M.Z., Shreedevi S Ronihal** , “Blockchain-Enabled Fake Food Product Authentication and Health Risk Assessment Using Machine Learning and Cryptographic Hashing”, International Conference on Signal, Systems, Computing for Next-gen Automation (ICSSCNA-2026) held during 4 - 6, May 2026 at Ramachandra College of Engineering (RCE), Eluru Dt., A.P., India.
7. **Sindhu N, Jagruthi H, Shriram Pai, Chiranth S, Aishvarya V, Pavan J** , “Securing Agentic AI via Hybrid CNN-Transformer Detection and Cryptographic Intent Binding”, 6th International conference on Smart Data Intelligence (ICSMDI-2026) organized by Kongunadu College of Engineering and Technology , Trichy, Tamil Nadu , India on February 27-28, 2026.
8. **Divyashree S R**, An Evaluation of EfficientNet, DenseNet, and MobileNet Architectures for Parkinson's Disease Detection Using Deep Learning Techniques in the 2026 International Conference on Natural Language Processing and Computer Vision (ICNPCV) at Global Academy of Technology (GAT), Bengaluru, India during 17th–18th, July 2026.

9. **Shreedevi S Ronihal**, “Deepfake Video Detection Using Integrated Spatial–Temporal Learning with ResNeXt and LSTM Networks” in the 9th International Conference on Innovative Computing and Communication (ICICC2026) organized by Shaheed Sukhdev College of Business Studies, University of Delhi, New Delhi, India in association with the National Institute of Technology Patna, India and the University of Valladolid, Spain on 06th -07th February 2026.

10. **Deepak B Gowda, N Gagan, Chandan R, Vanmayi Kulkarni, Shreedevi S Ronihal**, An Explainable Unsupervised Ensemble Framework for Insider Threat Detection, ICIDS 28th April 2026.

11. **Anirudh Kulkari, Jayanth V, Vandana B R, Guruprasad** “Privacy-Preserving Hybrid Machine Learning Approach for Real-Time Phishing Website Detection”, in 1st International Conference on IGNITE-2026 organized by K J College of Engineering and Management Research, Pune during 17th to 19th June 2026.

Student Achievements

Sports

1. **Suraj** (1BG24IS057) won 3rd Place in Junior Powerlifting Championship from 1st to 3rd May 2026.
2. **Suraj** (1BG24IS057) won 1st Place in Powerlifting Championship LEVIOISA – 2K26 at BMS college of Law on 26th March 2026.
3. **Shravani C** (1BG25IS403) won 2nd Place in Chess on 17th March 2026 at BNMIT.
4. **Shravani C** (1BG25IS403) won 1st Place in Bengaluru central division Inter collegiate Volley Ball (women) tournament at BNMIT from 24th to 25th April 2026.
5. **Akshara** (1BG24IS003), **Akshay Bhat** (1BG24IS005), **Smruti Sagar Kavi** (1BG24IS051), **Smruti S K** (1BG24IS052), won 3rd Place in “AAVISHKAR 8 Hours Hackathon” organized by SPECTRON by DSATM on 22nd April, 2026.
6. **T Venkata Manideep** (1BG24IS058) won 1st Place in MIMIC MADNESS organized by SIGGRAPH NMIT.
7. **Syed Nakeeb Javaid Kirmani** (1BG23IS056) won 1st place in Cricket on April 2026 at BNMIT.

Editorial Team

Students

- **Suhani B A-IV Sem**
- **Prarthana B-IV Sem**
- **Prerana H-IV Sem**
- **Sinchana Bhargav K A-IV Sem**
- **Preethi Maria Dmello-IV Sem**
- **Disha K Goudra-IV Sem**
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- **Dr. Payal Mukherjee** - Assistant Professor, English

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- **Sri. Arun K** - Instructor