

USHA RAMA

COLLEGE OF ENGINEERING AND TECHNOLOGY
AUTONOMOUS

TECH BYTES

JUL-DEC

ACADEMIC YEAR:2023-24



NEWS LETTER

EDITOR IN CHEIF:Dr.S.M.Roy Choudri

Professor&HOD of CSE

CO-EDITOR:Dr.K.P.N.V Satyasree

Professor

FACULTY COORDINATORS

B.V.PRAVEEN KUMAR (Asst.Prof)

K.BHAVANI (Asst.Prof)

STUDENT COORDINATORS

20NG1A0518-GOLLA UPENDRA

20NG1A0526-KARRA MERCY

21NG1A0540-NALLURI VIVEK

21NG1A0528-KOYA ROHITH

22NG1A0529-KANTA LOKESH

22NG1A0576-A.MADHAVI

**VOL-5
ISSUE-1**

**DEPARTMENT OF
COMPUTER SCIENCE
AND ENGINEERING**

TECHNOZOLA
A CSE Students Association

Institute Vision and Mission



Vision

To emerge as a Centre of excellence in technical education by imparting quality teaching learning practices and research for the transformation of society.

Mission

- M1: Provide an ideal and the best class infrastructure to foster exploration in engineering and research
- M2: Build dedicated faculty with student centric teaching, incorporating experiential, innovative skills.
- M3: Encourage life-long learning, entrepreneurial thinking, and ethical responsibility in students to address societal challenges.

Department Vision and Mission

Vision



To emerge as a skilled Technocrats on global scale in Computer Science and Engineering through quality education, innovation, collaborative researchers and entrepreneurs with moral values.

Mission



DM1: To impart quality education to the students.

DM2: To pursue creative research and new technologies in Computer Science and Engineering.

DM3: To encourage entrepreneurship skills among students and inculcating moral and ethical values to serve for the society.

Program Educational Objectives Statements (PEOs)

PEO 1: Our graduates will establish themselves as effective professionals in industry, academia and entrepreneurship.

PEO 2: Our graduates will become profound researchers in multiple domains.

PEO 3: Our graduates will act as a leader in society.

Program Outcomes (POs)

1.Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2.Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3.Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4.Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5.Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6.The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8.Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9.Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

PSO1: Illustrating a Comprehensive understanding of fundamental Computer system Principles encompassing both hardware and software components to cultivate strong conceptual skills in processing and assigning computation solutions.

PSO2: Demonstrate and design proficient and technical abilities in algorithms, networking, web design, Cloud Computing and data analytics enabling the development of innovative solutions to complex real-world problems while identifying and addressing emerging research gaps.



Leading with Purpose



Mr. Ramabrahmam Sunkara, Chairman of Usha Rama College of Engineering and Technology, is a visionary leader who is consistently striving to elevate the institution to new heights. With a deep commitment to academic excellence and innovation. Under Mr. Sunkara's guidance, the college has seen significant advancements in infrastructure industry partnerships, and technological integration. His efforts are dedicated to providing students with a robust platform to thrive academically and professionally, preparing them to be leaders in their respective fields. Through his relentless drive and vision, Usha Rama College continues to foster an environment of growth, opportunity, and success.



RAMABRAHMAM SUNKARA
CHAIRMAN

Dr. Kurra Rajasekhara Rao's remarkable career has been marked by a dedication to advancing the field of engineering education. Under his leadership, Usha Rama College of Engineering & Technology has become a beacon of excellence. Dr. Rao's commitment to shaping the next generation of engineers is further demonstrated through his active involvement in academic and professional communities, where he continues to mentor and inspire students and faculty. A passionate advocate for interdisciplinary research, Dr. Rao's work has bridged the gap between theoretical knowledge and practical application, empowering students and professionals to innovate and solve complex challenges. His legacy extends beyond his many awards, as he continues to serve as a guiding force in the advancement of engineering education and technology.



Dr. KURRA RAJASEKHAR RAO
DIRECTOR

Academic Anchors



Dr.G.V.K.S.V.PRASAD
PRINCIPAL

Dr. G.V.K.S.V.Prasad distinguished Principal of Usha Rama College of Engineering and Technology, known for his visionary leadership and academic excellence. Holding a Doctorate from NIT Warangal and an M.Tech from IIT Mumbai, he boasts over 28 years of experience in teaching, consultancy, and research. His expertise extends to successfully completing several AICTE-sponsored research projects, which reflect his commitment to advancing knowledge and technology. A recognized scholar and leader. His dedication to excellence and innovation makes him a driving force behind the success of Usha Rama College of Engineering and Technology.

Dr. S.M. Roy Choudhri is the Head of the Department (HOD) of CSE at Usha Rama College of Engineering & Technology, he has played a key role in enhancing research, infrastructure, and student outcomes. Under his leadership, the CSE department has seen remarkable growth, particularly in research output and industry collaboration. His efforts have resulted in the establishment of state-of-the-art labs and research centers within the department, offering students valuable opportunities for experiential learning. His approachable nature and dedication to mentoring have made him highly respected by both students and faculty.



Dr.S.M.ROY CHOUDRI
HOD of CSE



Dr.K.P.N.V SATYA SREE
professor

Dr. K. P. N. V. Satya Sree is a distinguished Professor in the Department of Computer Science and Engineering at Usha Rama College of Engineering and Technology (URCET). With an academic career rooted in excellence, she brings a wealth of knowledge and experience in the domains of Data Mining, Machine Learning, Artificial Intelligence (AI), and E-Commerce. Her dedication to research and innovation is evident through her numerous scholarly contributions, which have garnered over 140 citations, reflecting her impact on the academic and research community. Dr. Satya Sree's commitment to advancing education and fostering a culture of continuous learning has been recognized through several prestigious accolades

HACKATHON

Hackathon Ignites Innovation and Collaboration at Usha Rama



Innovation met enthusiasm as students from various branches gathered for a high-energy, two-day Hackathon organized under the guidance of **Dr. K P N V Satya Sree** at the R-Block Seminar Hall. Held on **July 17th, 2023**, the event created a dynamic platform for aspiring technologists to apply their skills to real-world problems through code, creativity, and collaboration.

The hackathon fostered a spirited atmosphere where teams worked relentlessly—ideating, prototyping, and refining their solutions. Energy levels remained high throughout, as participants immersed themselves in late-night debugging sessions, collaborative discussions, and rounds of peer-to-peer learning. The presence of dedicated mentors and expert judges enriched the experience, providing valuable insights and constructive feedback to sharpen the participants' innovations.

Projects ranged from AI-powered tools to socially impactful digital solutions, each one a testament to the ingenuity and potential of our student community. The event culminated in an inspiring closing ceremony that recognized outstanding projects and encouraged every participant to continue exploring, building, and leading in the tech space.



IBM workshop



The **IBM Workshop**, conducted from **25th to 27th September 2023** at the R-Block Seminar Hall, was a dynamic and enriching three-day event aimed at empowering students with future-ready technical skills. Hosted by **Usha Rama College of Engineering and Technology in collaboration with IBM industry experts**, and coordinated under the guidance of **B V Praveen Kumar**, the workshop focused on some of the most transformative domains in today's tech world.

Over the course of the workshop, participants delved into cloud computing, artificial intelligence, and data analytics through expert-led sessions and interactive, hands-on labs. With real-time demonstrations and case studies, students were exposed to practical approaches for solving modern technological challenges.

The sessions were not just lectures but immersive experiences. Students worked on live projects, collaborated in teams, and explored the latest IBM tools and platforms under the guidance of professionals. The event encouraged curiosity, critical thinking, and problem-solving — essential traits for any future engineer or developer.

The IBM Workshop stands as a testament to Usha Rama College's commitment to fostering industry-relevant education and empowering students to stay ahead in an ever-evolving digital landscape.



IDE WORKSHOP



Usha Rama College of Engineering and Technology successfully conducted a 4-day Bootcamp from **27th to 30th September 2023** at the **R-Block Seminar Hall**, providing students with an intensive and immersive platform to explore cutting-edge technologies, sharpen their coding skills, and elevate their problem-solving capabilities.

The bootcamp featured a carefully curated mix of technical workshops, coding challenges, mentorship sessions, and hands-on learning activities. Sessions were led by renowned industry professionals, technology experts, and esteemed faculty members including **Dr B. Ashalatha** ensuring students received real-world insights into the rapidly evolving tech landscape.

Participants engaged in interactive modules covering:

- Full-stack development and web technologies
- AI/ML foundations and real-time applications
- Cybersecurity and ethical hacking basics
- Competitive programming and debugging techniques

Each day included practical sessions that allowed students to work on mini-projects, enabling them to apply theoretical concepts in real time. Collaborative group tasks, one-on-one mentor interactions, and demo sessions made the bootcamp not only educational but also highly engaging.

One of the major highlights of the event was a mini hackathon on the final day, where teams presented innovative solutions to real-world problems. The ideas were evaluated by a panel of judges from both academia and industry, adding a professional touch to the experience. The bootcamp also offered networking opportunities for students to interact with mentors, peers, and alumni, fostering connections that could benefit them in internships, placements, and collaborative projects. Overall, the 4-day bootcamp left a significant impact on students' technical growth and confidence. It empowered them to think beyond textbooks and encouraged a mindset of innovation, adaptability, and continuous learning. This event stands as a reflection of the college's ongoing commitment to providing industry-relevant education and holistic development for future engineers and tech leaders.



గన్తువరం గ్రామీణం, న్యూస్టుడే: ఆ ఖిల భారత సాంకేతిక విద్యా మండలి సంయుక్త సహకారంతో దేశ వ్యాప్తంగా ఉన్నత విద్యామండలి జాతీయ పురస్కారాల్లో ఉంగుటూరు మండలం తేలప్రోలు ఉపాచార్యులు ఐ.టి.ఇ.ఎం. కళాశాలకు వివిధ విభాగాల్లో పలు అవార్డులు లభించాయి. సాంకేతిక కోర్సుల్లో శిక్షణ ఇస్తూ ఉపాధి అవకాశాలు కల్పిస్తున్న కళాశాలగా, ప్రముఖ ఐటీ, రోబోటిక్స్ సంస్థల ఒప్పందాలతో నిర్వహిస్తున్న కోర్సులకు ఉత్తమ ప్రతిభా పురస్కారాలు లభించినట్లు యాజమాన్యం శుక్రవారం వెల్లడించారు. జాతీయ స్థాయిలో గుర్తింపునకు కృషి చేసిన అధ్యాపకులు, సిబ్బంది, విద్యార్థులకు చైర్మన్ సుంకర రాంబ్రహ్మం, ప్రిన్సిపల్ ప్రసాద్ తదితరులు



సాంకేతిక పరిజ్ఞానంపై పట్టుసాధించాలి



శిక్షణలో పాల్గొన్న విద్యార్థులతో కళాశాల యాజమాన్యం

ఉంగుటూరు, అక్టోబరు 5 : కాలానుగుణంగా మారుతున్న ఆధునిక సాంకేతిక పరిజ్ఞానంపై విద్యార్థులు మంచిపట్టు సాధించడంతోపాటు అందివచ్చిన అవకాశాలను సద్వినియోగం చేసుకోవాలని ఐసీటీ అకాడమీ రిలేషన్ షిప్ మేనేజర్ ఎన్.డి.నకరెడ్డి అన్నారు. ఐసీటీ అకాడమీ, ఇన్ ఫోసిస్ ఫౌండేషన్ సంయుక్త ఆధ్వర్యంలో రోబోటిక్స్ ప్రాసెస్ ఆటోమేషన్ (ఆర్పీఏ), సాఫ్ట్ స్కైల్స్ పై తేలప్రోలు

Day 1 – Full-Stack Development & Web Technologies

The bootcamp began with a deep dive into front-end and back-end development. Students explored HTML, CSS, JavaScript, Node.js, and database integration through interactive sessions. Hands-on tasks allowed them to create functional web pages, laying the foundation for modern web development.

Day 2 – AI/ML Foundations & Real-Time Applications

Participants were introduced to the basics of Artificial Intelligence and Machine Learning, including supervised vs unsupervised learning, data preprocessing, and model building. Real-time applications were showcased, helping students understand how AI/ML is revolutionizing industries.

Day 3 – Cybersecurity & Ethical Hacking

This day focused on the fundamentals of cybersecurity, ethical hacking principles, and data protection strategies. Students learned about network vulnerabilities, penetration testing, and how ethical hackers help secure systems. Live demos added excitement to the learning experience.

Day 4 – Competitive Programming & Mini Hackathon

The final day sharpened students' problem-solving and debugging skills through coding challenges and contests. The day culminated in a mini hackathon, where teams tackled real-world problems and presented their solutions to a panel of judges. It was a true test of creativity, collaboration, and critical thinking.

Conclusion

The 4-day Bootcamp at Usha Rama College of Engineering and Technology was more than just a technical training—it was a transformative journey. From crafting web applications to designing AI models, securing digital spaces, and solving real-world challenges, students walked away with newfound confidence and a future-ready mindset. With dedicated faculty like **Dr. Roy Choudhri Subramani** and enthusiastic participation from students, the event reflected the college's unwavering commitment to academic excellence and innovation. This bootcamp wasn't just an event—it was a launchpad for aspiring tech leaders of tomorrow.

చిత్రాన్ని మార్చేస్తుంది: డాక్టర్ జి సతీష్ రెడ్డి



ఉంగుటూరు, ఉదయతార : విద్య దేశముఖ చిత్రాన్ని మార్చేస్తుందిని ఏరోనాటికల్ సొసైటీ ఆఫ్ ఇండియా అధ్యక్షులు, మాజీ కార్యదర్శి రక్షణ శాఖ ఆర్ అండ్ డి చైర్మన్ డి.ఆర్.డి. రత్నమంత్రి కి సైబీఐకె అడ్వైజరీ డాక్టర్ జి సతీష్ రెడ్డి అన్నారు. కృష్ణా జిల్లా, ఉంగుటూరు మండలం, తేలప్రోలు ఉషారామ ఇంజనీరింగ్ కళాశాలలో భారతదేశంలో విద్యావ్యవస్థ పరివర్తన పై గెస్ట్ లెక్చర్ కార్యక్రమాన్ని సోమవారం నిర్వహించారు. ఈ సందర్భంగా ముఖ్యఅతిథిగా విచ్చేసిన సతీష్ రెడ్డి మాట్లాడుతూ భారత ప్రభుత్వం విద్యా వ్యవస్థలో అనేక సంస్కరణలను తీసుకొచ్చిందన్నారు. సాంకేతిక రంగాలలో అధునాతన ఆలోచనలతో ముందుకు వచ్చేలా యువతను ప్రోత్సహించటం జరుగుతుందన్నారు. తయారీ రూపకల్పన, అవిష్కరణలు, స్టార్టప్ లకు ప్రోత్సాహాన్ని అందించడానికి వీలు కల్పించే వాతావరణాన్ని సృష్టించడానికి విద్య వ్యవస్థలో మార్పులు తీసుకుందన్నారు. పరిశోధన ప్రచురణలు మరియు పిహెచ్ డి లు పొందటంలో భారతదేశం ప్రపంచంలో మూడవ స్థానంలో ఉందన్నారు. 75 శాతం ఐఐటి విద్యార్థులు భారతదేశంలోనే తిరిగి ఉండటం భారతదేశ ఆభివృద్ధికి మంచి సాంకేతికమన్నారు. అప్పట్ ఆఫ్ టాక్స్ అని ఆలోచించే విద్యార్థులు ప్రపంచానికి పోటీదారులవుతారన్నారు. అధునాతన క్యాంటం ఫిజిక్స్, సైబర్ భద్రత ఆభివృద్ధి చెందుతుందన్నారు. స్నాకంత్రం సిద్ధించే 100 సంవత్సరాలు నాటికి భారతదేశం వికసిత భారత్ గా మరియు ప్రపంచానికి ఆగ్రగామిగా మారుతుందని ప్రధానమంత్రి నరేంద్రమోడీ అన్నారుని చెప్పారు. ప్రపంచవ్యాప్తంగా వేగంగా ఆభివృద్ధి చెందుతున్న ఆర్థిక వ్యవస్థగా భారత్ అవతరించిందని స్పష్టం చేశారు. ఎన్ ఐ డి ఎం కల్చర్ పి ఎన్ రెడ్డి మాట్లాడుతూ కష్టమైన లేదా ఇబ్బంది కరమైన లక్ష్యాన్ని సాధించడానికి శారీరకంగా మానసికంగా శ్రమించటమే హార్డ్ వర్క్ అన్నారు. కళాశాల ప్రిన్సిపాల్ డాక్టర్ జి వి కె ఎస్ వి ప్రసాద్ మాట్లాడుతూ అధునిక సాంకేతికత ఉత్పాదకతతో పాటు మానవ కార్యకలాపాల సామర్థ్యాన్ని పెంపొందిస్తుందన్నారు. తద్వారా తప్పన సమయంలో పనులు వేగవంతంగా చేయగలుగుతామన్నారు. డి.ఆర్. డి. ఓ. ఉద్యోగం సంపాదించడం విద్యార్థి సమాజానికి చాలా కష్టమైన పనేనన్నారు. విద్యార్థులు సవల్ గా తీసుకొని ముందుకు సాగాలని పిలుపునిచ్చారు. ఇన్స్టిట్యూట్ సెల్ డీన్ డాక్టర్

Tech faceoff

Technozola – Igniting Innovation Through Tech

On 7th August 2023, Technozola, the vibrant technical club of Usha Rama College of Engineering and Technology, hosted an exciting series of tech-focused events at the R-Block Seminar Hall. Renowned for nurturing young innovators, Technozola once again lived up to its vision of making technology both fun and impactful.

The event featured a dynamic mix of interactive workshops, live demonstrations, and mini-competitions covering trending topics like coding, artificial intelligence, and core electronics. Students from various branches actively participated, engaging in hands-on learning experiences that connected theory to real-world applications.

A key highlight of the event was the coding sprint challenge, where teams collaborated to crack logic-based problems within time limits. Meanwhile, the AI corner drew in participants with live demos on machine learning concepts and how AI can be used to solve everyday challenges. The electronics zone offered core enthusiasts a platform to build, break, and better their circuit knowledge through DIY tasks and problem-solving exercises.

Under the valuable mentorship and support of **M.Sambhasivarao**, the event was executed seamlessly, with both faculty and student volunteers working together to deliver a highly enriching experience.

The event also encouraged peer-to-peer learning, cross-department collaboration, and creative thinking, making it more than just a technical gathering—it became a celebration of innovation. Students not only enhanced their technical abilities but also improved their communication, leadership, and teamwork skills through these immersive and enjoyable activities.

By the end of the day, participants left with sharpened minds, inspired hearts, and a deeper appreciation for the evolving world of technology. Events like Technozola continue to demonstrate Usha Rama College's commitment to experiential learning, preparing students to become confident, capable, and curious engineers of tomorrow.





The success of Technozola 2023 lies not just in its execution but in the energy, enthusiasm, and engagement it inspired among students. It was more than a one-day event—it was a spark that ignited curiosity and a passion for innovation across the campus. The event bridged the gap between classroom learning and real-world challenges, giving students a glimpse of what lies beyond their textbooks. Whether it was a beginner writing their first line of code or an electronics enthusiast building circuits from scratch, every participant had a space to grow. Technozola created a safe, encouraging environment where trial and error were celebrated, and every question asked was a step toward learning. Such platforms are vital in today's fast-paced tech world where adaptability and hands-on experience matter as much as theoretical knowledge.

Special appreciation goes to the organizing team, volunteers, and mentors who ensured every session ran smoothly and every student was given the chance to shine. Faculty support, especially from **Dr. Kosuru Punya Naga Venkata Satya Sree**, played a pivotal role in shaping the event's success. The event also fostered inter-departmental collaboration, allowing students from various disciplines to appreciate how different branches of engineering intersect in real-world problem-solving. As Technozola continues to grow, it reinforces the college's mission to produce not just graduates but innovators, thinkers, and future leaders in technology. Every moment of Technozola 2023 reflected the spirit of learning, collaboration, and excellence. It set a benchmark for upcoming events and left students eagerly looking forward to the next edition. Technozola wasn't just an event; it was an experience that will stay etched in the minds of every participant.

Here's to many more chapters of innovation and inspiration at Usha Rama

AI-ML BOOT CAMP



AI-ML Bootcamp – Igniting Innovation Through Intelligent Systems



The **AI-ML Bootcamp**, organized at **Usha Rama College of Engineering and Technology** under the guidance of **S.Gogula Priyae** dated from **7/09/2023 to 8/09/2023**, served as a transformative learning experience for students, equipping them with both foundational and advanced concepts of Artificial Intelligence (AI) and Machine Learning (ML).

More than just a workshop, the bootcamp fostered a forward-thinking mindset among participants. It encouraged students to think beyond conventional programming and explore real-world applications of AI and ML in domains such as healthcare, finance, robotics, agriculture, and smart cities.

From hands-on model building to data training and algorithm tuning, students were exposed to industry-relevant tools like Python, Scikit-learn, TensorFlow, and Jupyter Notebooks, gaining practical experience aligned with current technological standards.

From Learners to Innovators

One of the standout impacts of the bootcamp was how it inspired students to innovate. Under the expert mentorship of Dr. Satya Sree, students worked on mini-projects, brainstormed creative solutions to real-world problems, and participated in critical thinking exercises that simulated industry-level challenges.

The bootcamp provided an immersive platform to understand:

- How data drives intelligent decision-making
- How predictive models are trained and evaluated
- How automated systems are built to optimize real-world tasks



Bridging Academia and Industry

The AI-ML Bootcamp stands as a testament to the college's vision of delivering future-ready education while actively bridging the gap between academia and industry expectations.

It empowered students to:

- Gain hands-on exposure to real-world AI/ML workflows
- Build interdisciplinary collaboration skills
- Understand how AI can transform industries and society

This bootcamp exemplified how academic institutions can seamlessly integrate industry expectations into their curriculum. By focusing on practical tools, real-time problem-solving, and industry-aligned project work, it bridged the theoretical knowledge gained in classrooms with the practical skills demanded in today's AI-driven job market. Students gained not only technical exposure but also the confidence to navigate real-world tech scenarios.

Shaping the Tech Leaders of Tomorrow

By nurturing a culture of continuous learning, curiosity, and innovation, the college is ensuring that its students evolve as more than just job seekers—they emerge as job creators, tech leaders, and pioneers in AI and Machine Learning.

Events like this reflect Usha Rama College's commitment to preparing students for the challenges and opportunities of a rapidly evolving digital world.



The overwhelming participation, enthusiastic engagement, and tangible learning outcomes made the AI-ML Bootcamp a resounding success. It not only ignited curiosity but also laid the foundation for a future-ready generation of AI innovators.

Such initiatives reaffirm the college's dedication to nurturing technologically empowered, industry-ready minds. The success of this bootcamp sets a promising precedent for more advanced and large-scale tech initiatives in the near future.

With every such program, Usha Rama College of Engineering and Technology moves a step closer to becoming a hub of excellence in cutting-edge technological education. The bootcamp has planted the seeds of innovation, and we look forward to witnessing the breakthroughs these students will create in the world of AI and Machine Learning.

This successful event also sparked a deeper interest in emerging technologies among students who previously felt intimidated by AI and Machine Learning. It broke down barriers, making complex ideas accessible and exciting. The collaborative environment nurtured peer-to-peer learning, boosting confidence and encouraging curiosity-driven exploration. Students felt a renewed sense of purpose, with many expressing a desire to contribute to AI solutions that can make a social impact. The bootcamp also inspired participants to think entrepreneurially, motivating some to ideate AI-based startups or product ideas. It created a space where questions were encouraged, innovation was celebrated, and failure was seen as a stepping stone to growth. The presence of passionate mentors and hands-on experience gave students a glimpse of what it's like to work in real AI industry settings. The enthusiasm carried beyond the bootcamp, with students continuing their learning journey independently. Events like these not only educate but also empower students to become creators of technology, not just consumers. The AI-ML Bootcamp truly marked a pivotal milestone in the academic calendar, promising a brighter, more tech-forward future for all involved.

SEMINAR



On **20th October 2023**, at **Usha Rama College of Engineering and Technology** was transformed into a dynamic hub of innovation, collaboration, and learning. Guided by the esteemed **B.Sowmya**, the event brought together students, faculty, and industry experts for a power-packed day that celebrated the fusion of knowledge, creativity, and cutting-edge technology.

The atmosphere was electric with energy and curiosity as students from diverse academic backgrounds converged to explore the frontiers of modern engineering and emerging tech domains. The day featured an impressive lineup of engaging talks, interactive panel discussions, and hands-on workshops, sparking not just ideas—but a passion for experiential, real-world learning.

Topics spanned the spectrum of Artificial Intelligence, the Internet of Things (IoT), and other disruptive innovations, reflecting the fast-evolving tech landscape that today's engineers must navigate. What set this event apart was its multi-disciplinary engagement—students didn't just listen; they actively participated, asked questions, built solutions, and challenged themselves in various formats.

Throughout the day, Dr. Asha Latha Bandi, along with other faculty mentors, played a pivotal role in guiding students—bridging the gap between theoretical concepts and practical applications, and ensuring each student felt supported, challenged, and inspired.

This event was more than a tech meet—it was a celebration of student potential, a platform where ideas met execution, and where learning went beyond lectures. It created a safe, inclusive, and inspiring space for students to express their creativity, build confidence, and prepare for the challenges of the modern tech industry.

Robotics and Drones: The Future is Now

Engineering Intelligent Automation in the Age of Industry 4.0

As we transition deeper into the era of Industry 4.0, the convergence of robotics, automation, and unmanned aerial systems is reshaping the technological landscape. What was once considered the domain of high-end research institutions is now accessible to engineering students through open-source platforms, modular hardware, and interdisciplinary learning. Robotics and drone technologies are no longer emerging—they are essential components of modern engineering innovation.

The Technological Framework

Robotics is a highly interdisciplinary field combining mechanical design, embedded systems, electrical actuation, sensor fusion, and computational intelligence. Contemporary robotics applications span across autonomous navigation, industrial automation, surgical assistance, logistics, and human-machine interaction.

Key components in modern robotic systems include:

- **Microcontrollers and SBCs:** Arduino, STM32, Raspberry Pi, and Jetson Nano for control logic and processing.
- **Sensor Integration:** Ultrasonic, LiDAR, IMU, encoders, and visual sensors for environmental perception and localization.
- **Actuation Systems:** Servo motors, stepper motors, and pneumatic actuators for motion control.
- **Control Algorithms:** PID control, model predictive control (MPC), and inverse kinematics for precise movement.
- **Software Frameworks:** ROS (Robot Operating System), Gazebo, and MoveIt for simulation, path planning, and manipulation.

Similarly, Drone Technology or Unmanned Aerial Vehicles (UAVs) integrates principles of aerodynamics, real-time embedded programming, telemetry systems, and autonomous navigation. The integration of computer vision and AI further enables drones to operate autonomously in dynamic environments.

Academic Involvement and Applied Learning

Engineering students today are actively participating in competitive platforms such as:

RoboCup and ABU Robocon – Focusing on autonomous robotics with tasks rooted in real-world problem-solving.

SAE Aero Design and AUVSI SUAS – Showcasing student innovations in drone payload delivery and autonomous flight navigation.

Smart India Hackathon, eYantra, and DRDO Robotics Challenges – National-level platforms promoting robotics for defense, health, and smart city applications.

Robotics and drone clubs in universities serve as incubators for practical innovation. Students regularly prototype systems such as:

SLAM-enabled navigation robots

AI-driven surveillance drones

Robotic manipulators with vision-based object recognition

Gesture-controlled or brain-computer interface robots

Advanced students often utilize simulation environments like AirSim (Microsoft), Webots, and Gazebo, enabling them to test autonomous flight algorithms and robotic movement before hardware deployment.

Real-World Applications and Industrial Trends

The scope of robotics and UAVs is expanding across numerous sectors:

Precision Agriculture – Drones equipped with NDVI sensors for crop health analysis.

Autonomous Warehousing – AGVs and AMRs powered by ROS, SLAM, and edge AI.

Aerial Mapping and Surveying – Photogrammetry and LiDAR-based terrain modeling.

Surveillance and Disaster Management – UAV swarms for search-and-rescue and reconnaissance.

Healthcare Robotics – Minimally invasive surgical robots and exoskeletons.

Career Trajectories and Future Outlook

Students proficient in robotics engineering, aeronautics, control systems, AI/ML, and embedded development are increasingly being absorbed by sectors such as defense, aerospace, healthcare, and manufacturing.

Roles in demand include:

Robotics R&D Engineer

UAV Systems Architect

Perception and Path Planning Engineer

Control Systems Engineer

Mechatronics Engineer

AI for Robotics Specialist

Recruiters include global firms like Boston Dynamics, iRobot, DJI, Lockheed Martin, ABB, Siemens, DRDO, ISRO, and Indian startups like IdeaForge, Asteria Aerospace, and Garuda Aerospace.

Final Reflection

Robotics and drone systems are more than technical projects—they are a manifestation of problem-solving, systems thinking, and innovation. For students in their third year, this is a pivotal time to move beyond theoretical knowledge into applied engineering. Whether through participating in multidisciplinary projects, publishing papers, or contributing to open-source communities, the opportunity to shape the next generation of intelligent automation lies in your hands.

In the age of smart machines, those who understand how to build, control, and ethically deploy them will lead the future.

Exploring Artificial Intelligence in Everyday Life

Artificial Intelligence (AI) has rapidly evolved from a futuristic concept into an everyday reality. From smartphones to smart homes, AI now powers much of the technology we use daily—often without us even realizing it.

AI refers to the ability of machines to mimic human intelligence, enabling them to learn, solve problems, and make decisions. Whether it's Alexa answering questions or Netflix recommending movies, AI is embedded in our routines.

In education, AI personalizes learning, assists with grading, and powers virtual tutors. In healthcare, it aids diagnosis, analyzes medical scans, and supports drug development. In transportation, AI enables self-driving cars and optimizes traffic flow.

We also see AI in:

Finance: Fraud detection, chatbots, credit scoring.

E-commerce: Personalized shopping and customer service.

Social Media: Feed customization, content moderation.

Entertainment: Smart recommendations and adaptive gaming.

At its core, AI relies on:

- Machine Learning (ML): Learning from data.
- Natural Language Processing (NLP): Understanding human language.
- Computer Vision: Interpreting visual input.
- Deep Learning: Advanced neural networks for complex tasks.

Popular tools and libraries include Python, TensorFlow, Pandas, and PyTorch. Platforms like Coursera, edX, and GUVI offer beginner-friendly and advanced courses, making AI learning more accessible than ever.

Yet, AI also raises concerns:

- Data privacy
- Bias in decision-making
- Job automation
- Accountability and ethics

That's why responsible and ethical development is crucial. Tomorrow's AI engineers must be thoughtful, inclusive, and socially responsible.

Students today have a unique chance to explore AI—not just as users, but as innovators and problem-solvers. With its interdisciplinary nature, AI is shaping careers not just in computer science, but also in biology, finance, agriculture, journalism, and even art.

Understanding AI means becoming future-ready. Whether you're coding a chatbot, analyzing data, training a neural network, or designing smart applications, AI opens doors to creativity, critical thinking, and impactful change.

AI isn't the future—it's the present. And it's here to stay. The question is: will you just use it, or will you help build it?

Challenges and Ethical Concerns

With all its benefits, AI also brings serious challenges:

Privacy Risks: AI systems often rely on user data. Without proper security, this information could be misused.

Bias and Fairness: If the training data is biased, the AI system can make unfair or discriminatory decisions.

Job Displacement: Automation may replace some traditional jobs, raising concerns about unemployment and economic disruption.

Accountability: When an AI system makes a mistake—like a self-driving car causing an accident—who is held responsible?

These issues make it essential for future developers, policymakers, and users to promote responsible AI development that is fair, transparent, and beneficial to society.

Why Should Students Care?

AI is not just for computer scientists. It's revolutionizing every field—healthcare, finance, marketing, education, law, and even creative arts. Whether you're planning a career in engineering, business, or design, understanding AI will give you a major advantage.

Today's students are tomorrow's innovators. By exploring AI now, you'll be better equipped to lead, solve real-world problems, and adapt to rapidly changing job markets.

You can start small: build a chatbot, create a recommendation system, or analyze simple datasets. With each step, you'll be building skills that are in high demand worldwide.

Applications in Key Industries

AI is not limited to consumer tech—it plays a major role in various industries:

Education: AI enables personalized learning experiences, virtual tutors, automated grading, and academic progress tracking.

Healthcare: AI helps in detecting diseases, analyzing X-rays and MRIs, managing patient data, and even predicting outbreaks.

20NG1A0518
GOLLA UPENDRA

From Coding to Career: How Learning to Code Can Shape Your Future

In today's digital age, coding isn't just for techies—it's a superpower that opens doors to countless careers, from software development and robotics to gaming, design, and even medicine. Whether you dream of becoming a tech entrepreneur or just want to create your own app, learning to code is a life-changing skill every student can explore.

Why is Coding So Important?

Coding is the language behind every app, website, and device we use. When students learn to code, they're not just memorizing commands—they're learning how to think critically, solve problems, and build things that impact the world. It teaches creativity, logic, patience, and resilience—skills that are valuable in any profession.

As the world becomes more reliant on technology, employers across all industries—healthcare, finance, entertainment, and education—are actively seeking individuals with coding skills.

Where Can You Start?

The best part? You don't need to be a genius or a math expert to begin. There are many free, beginner-friendly platforms that make coding fun and interactive:

Scratch – A block-based platform by MIT that lets you create games and animations.

Code.org – Perfect for school students; includes games like Minecraft and Frozen to teach coding basics.

Replit – A cloud-based coding environment where you can build and test real projects in various programming languages.

FreeCodeCamp – Offers free certifications in web development, data analysis, and more—ideal for serious learners.

You can also explore YouTube tutorials or coding apps like Grasshopper and SoloLearn.

Student Success Stories

Tanmay Bakshi, a self-taught coder from Canada, started coding at the age of 5 and now works with AI at IBM, giving TED talks and writing books by the age of 14.

Harshita Arora, from India, developed a crypto price tracker app at just 16, which went viral and opened doors to Silicon Valley.

Even college students from rural areas have built startups, cracked high-paying jobs, and contributed to open-source communities—all by learning to code from free platforms.

From Passion to Profession

Once you gain confidence, the possibilities are endless, You can:

Build a portfolio and freelance

Launch your own startup

Contribute to tech competitions and hackathons

Intern at leading companies

In the long run, coders are among the highest-paid professionals globally, with roles like Full Stack Developer, Data Scientist, Game Developer, and AI Engineer in huge demand.

Final Thoughts

Coding is more than a subject—it's a mindset. In a world driven by innovation, knowing how to code is like holding the key to shape the future. Whether you're 10 or 20, it's never too early (or too late) to start.

National Service Scheme



NSS Road Safety Awareness Program: Educating Youth for a Safer Tomorrow

The National Service Scheme (NSS) unit of Usha Rama College of Engineering and Technology organized a highly informative and socially impactful Road Safety Awareness Program to sensitize students about the importance of safe driving practices and traffic rule compliance. The event took place on campus and witnessed active participation from students, NSS volunteers, faculty members, and staff.

The primary objective of the program was to prevent road accidents, promote responsible behavior among youth, and instill a sense of civic duty and awareness, which aligns perfectly with the core values of NSS—Not Me, But You.

The session was led by Traffic In-Charge Officer **M.V.I. Ramanarao**, who delivered an engaging and insightful talk on road safety norms and accident response procedures. He educated students on the importance of immediate action when witnessing road accidents, emphasizing that one must:

- Inform the police without delay
- Ensure the safety and comfort of the injured
- Search for the nearest hospital and arrange medical help promptly

He further stressed that prevention is better than cure, urging students to always wear helmets and seat belts, even for short distances, and to strictly follow all traffic signals and rules. Officer Ramanarao also highlighted common causes of accidents, such as overspeeding, distraction due to mobile phones, and underage or unlicensed driving.

Mr. M. Vasu, a certified road safety trainer, also addressed the gathering and conducted an interactive session filled with real-life examples, safety demonstrations, and practical tips. His presentation helped students understand how small precautions can make a big difference in saving lives.

Staff Achievements



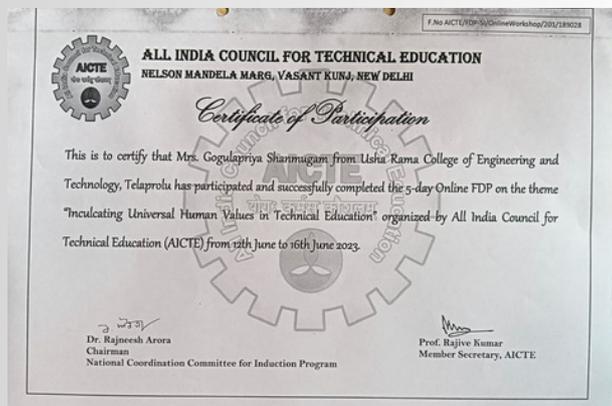
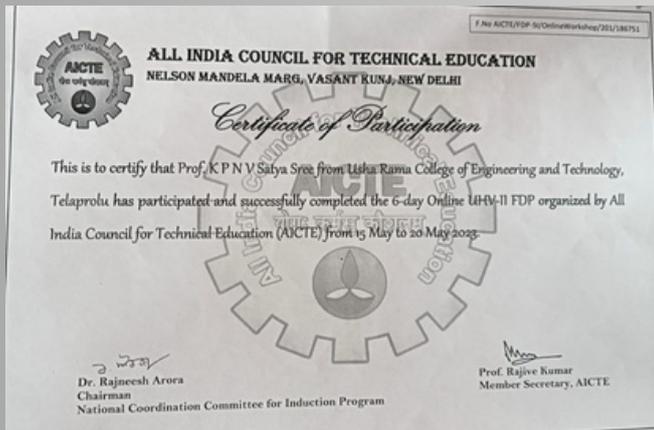
The Professor and the Assistant Professors of Usha Rama College of Engineering and Technology participated in several professional development initiatives to enhance their knowledge and skills in emerging technologies. They attended a series of workshops and training programs organized by prestigious platforms such as AICTE, NPTEL, and EduSkills, covering diverse and cutting-edge areas in engineering and technology.

The team began their training journey with the **UHV-II, UHV-I**, Soft Computing, Ethical Hacking, and IIOT workshops, which were designed to provide in-depth knowledge of universal human values, soft computing methodologies, ethical hacking techniques, and the latest developments in the Internet of Things (IoT). These workshops were pivotal in enhancing the faculty's understanding of the ethical and technical aspects that are shaping the modern technological landscape.

Additionally, the faculty members participated in a 5-day workshop and 24-hour Hackathon on AWS and DevOps, which took place from **17/07/2023 to 21/07/2023**. During this session, they gained hands-on experience with AWS cloud technologies and DevOps tools, strengthening their practical knowledge of cloud infrastructure management, continuous integration, and deployment techniques. The Hackathon offered a real-world challenge, where participants could apply their newly learned skills to solve complex problems in a collaborative and competitive environment.

Following this, the staff attended a 3-day workshop on Prompt Engineering from **25/09/2023 to 27/09/2023**, which introduced them to the latest trends in natural language processing (NLP) and prompt design techniques. This workshop was especially useful for understanding the applications of AI in creating effective communication between machines and users, equipping the faculty with the tools needed to teach and guide students in the rapidly evolving field of AI and machine learning.

The faculty also participated in a 3-day workshop on Data Science from **27/09/2023 to 30/09/2023**, which provided an in-depth exploration of statistical analysis, machine learning algorithms, and data visualization techniques. This workshop empowered the participants with the skills necessary to effectively analyze and interpret large datasets, a crucial competence for both teaching and research in the modern data-driven world.





Student Achievements

Students of Usha Rama College have consistently excelled in academics, sports, and technology, showcasing their dedication and talent. Many have achieved top ranks in university exams and secured prestigious scholarships. Their participation in national coding competitions, hackathons, and technical fests highlights their problem-solving skills and innovation. Students have also made remarkable contributions to research, publishing papers in reputed journals and conferences. Beyond academics, they shine in cultural events, sports tournaments, and leadership roles in student organizations. Many have secured internships and placements in top companies, demonstrating their career readiness. Their involvement in community service reflects a sense of social responsibility. With achievements in app development, robotics, and entrepreneurship, they continue to push boundaries. Their hard work and perseverance shape a promising future. Usha Rama College takes pride in nurturing such talented individuals who make a difference in various fields.

BATHULA SRIJA

**TECHNOVA
NATIONAL**

2nd prize

GUNUPUDI RAMYA

**DEBUGGING
NATIONAL**

3rd prize

BANDELA SIRISHA

**DEBUGGING
NATIONAL**

Participated

CHUNDRU SPANDHANA

**ETHICAL HACKING
NATIONAL**

Participated





Tech Ambassadors

"Tech Ambassadors are the heartbeat of our innovation culture – turning curiosity into capability, and capability into confidence."

In an era where technology is evolving faster than ever, Usha Rama College of Engineering and Technology takes pride in nurturing a group of dynamic student leaders known as Tech Ambassadors. These enthusiastic individuals go beyond classroom learning to embrace, explore, and evangelize technology among their peers, becoming catalysts of change within the campus community.

The Tech Ambassadors serve as mentors, guides, and tech advocates, playing a crucial role in making the student body future-ready. With deep interest in domains like Artificial Intelligence, Machine Learning, Data Science, Web Development, Internet of Things (IoT), and Cybersecurity, they bring the latest technological trends to life through workshops, webinars, bootcamps, and hands-on sessions.

Their mission is not just to learn but to lead — by creating platforms where students can collaborate, innovate, and build. From hosting coding competitions, tech fests, and project showcases to assisting juniors in building their first website or AI model, Tech Ambassadors are always at the forefront of every major tech initiative on campus.

They also play a vital role in connecting students with industry professionals, arranging guest lectures, and representing the college at national and international tech events, thereby bringing valuable exposure and recognition to the institution.

As part of their responsibilities, they help in cultivating a peer-learning ecosystem, where students learn from one another, share ideas, and co-create solutions to real-world problems. Their passion for technology and commitment to growth reflects Usha Rama College's larger vision of shaping technically skilled, socially responsible, and globally competent engineers.

Through the efforts of our Tech Ambassadors, we are not just adapting to the digital age — we are actively building it, one innovation at a time.

Student Speakers & Workshop Hosts



Student Speakers – Voices of Vision

In an electrifying celebration of intellect, innovation, and individuality, the spotlight at Usha Rama College of Engineering and Technology shone brightly on our student speakers — the vibrant voices of a new generation. With remarkable confidence, clarity, and conviction, they stepped onto the stage and turned the event into a transformative exchange of ideas, experiences, and aspirations. Each speaker brought to life the academic spirit and emotional depth that thrives within our campus. Their talks reflected not only a mastery of subjects but also a profound awareness of the world around them. With every word, they captured the essence of youth-driven thought leadership fearless, and forward-thinking. The diversity of topics addressed was truly inspiring. From cutting-edge technological trends like Artificial Intelligence, IoT, and Blockchain to pressing global issues such as climate change, gender equality, mental health advocacy, ethical tech use, and education reform the breadth of their insights was a clear indication of the curiosity and consciousness that define our student community. Their delivery — marked by passion, articulation, and authenticity — left a lasting impact on both peers and faculty alike.

These young orators proved that age is no barrier to insight, nor is experience a prerequisite for impact. They spoke with a maturity well beyond their years, challenging conventional thinking and encouraging the audience to view the world through a different lens. Some questioned norms, others envisioned solutions, and all of them sparked conversations that continued long after the applause faded. Their presence on stage wasn't just about delivering a speech — it was about owning their voice, about believing in the value of their thoughts, and about making a mark on those who listened.

At Usha Rama, we don't just create engineers — we nurture leaders, thinkers, and storytellers. Our student speakers are a glowing reminder that the future of society lies in the hands of those who are brave enough to speak, wise enough to listen, and bold enough to dream differently.

We celebrate them not just for their words, but for the world of change they represent — confident, compassionate, and endlessly curious.

Empowering Minds through NPTEL

A Step Towards Digital Excellence

At Usha Rama College of Engineering and Technology, learning goes beyond textbooks and classrooms. Our commitment to academic excellence is strengthened by active participation in NPTEL (National Programme on Technology Enhanced Learning) — a prestigious initiative by the Ministry of Education, Government of India, in collaboration with IITs and IISc.

Through NPTEL, our students gain access to world-class lectures, cutting-edge curriculum, and expert insights on emerging technologies. This year, we proudly encouraged and facilitated student enrollment in high-demand courses such as:

- **Internet of Things (IoT)**

This course opened a new horizon in smart connectivity and automation. Students explored how physical devices are interconnected via the internet, enabling them to analyze, control, and build real-world applications like smart homes, smart cities, and industrial IoT. The course empowered students with knowledge on sensors, microcontrollers, cloud platforms, and data processing.

- **Social Networks**

With the growing impact of digital interactions, the Social Networks course provided deep insights into how networks form, spread influence, and impact decision-making in society. Students learned about graph theory, link analysis, community detection, and the mathematics behind viral trends and online behavior.

- **Cyber Security**

In an age where data is the new currency, cybersecurity has become a critical skill. This course covered threats, vulnerabilities, cryptographic techniques, and ethical hacking. Our students gained awareness on safeguarding digital assets, understanding cyber laws, and building secure systems, making them future-ready for roles in cybersecurity.

- **Blockchain Technology**

Blockchain is transforming industries with its decentralized and tamper-proof ledger system. This course introduced students to the core concepts behind cryptocurrencies, consensus protocols, smart contracts, and the broader potential of blockchain in sectors like finance, healthcare, and supply chain.

USHARAMA

COLLEGE OF ENGINEERING AND TECHNOLOGY

AUTONOMOUS

IF
YOU CAN
DREAM IT
YOU CAN
ACHIEVE
IT

- Zig Ziglar

