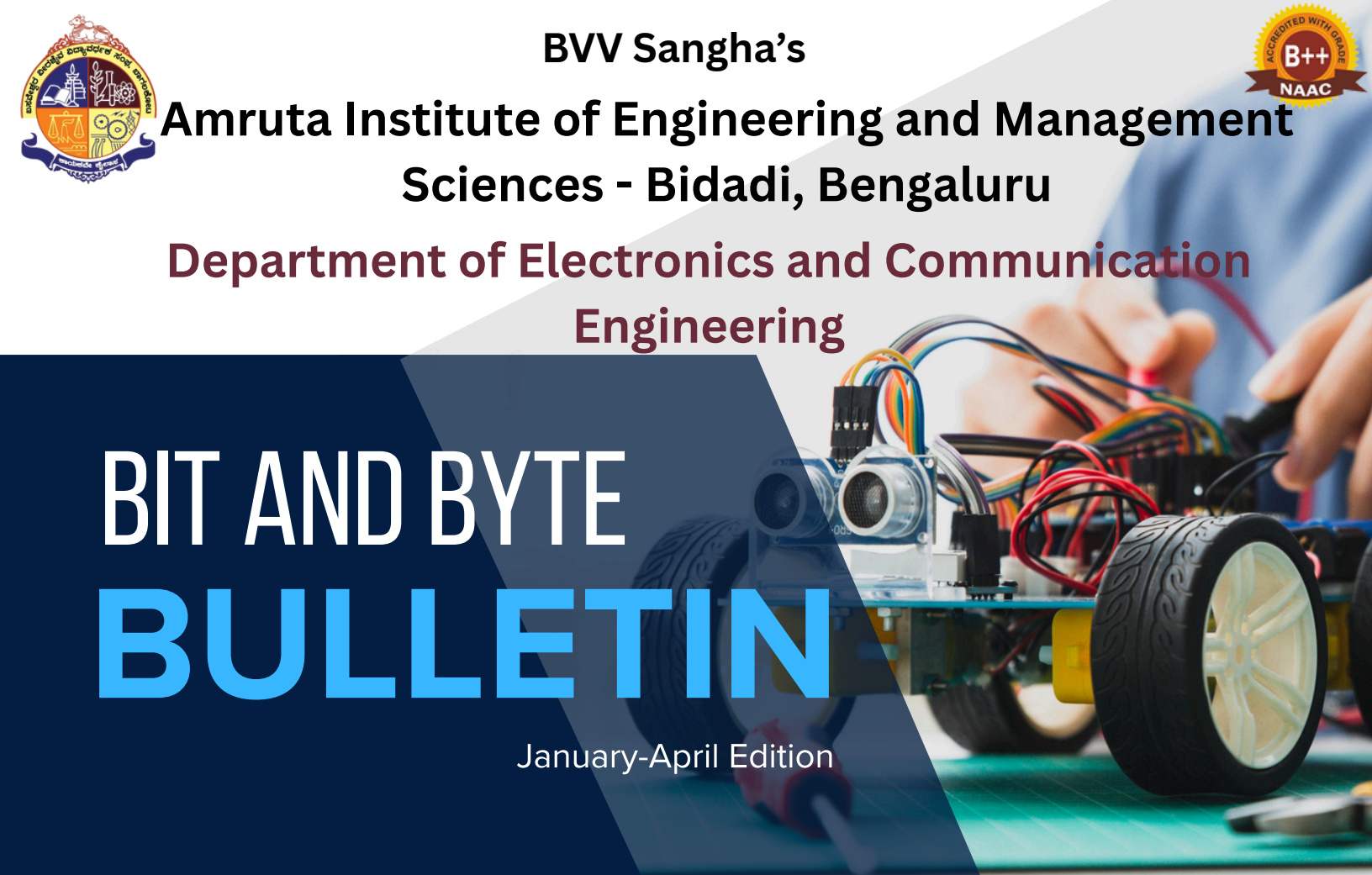
BVV Sangha's

Amruta Institute of Engineering and Management Sciences - Bidadi, Bengaluru

Department of Electronics and Communication Engineering



BIT AND BYTE BULLETIN

January-April Edition

Message From HOD

The Department of Electronics and Communication Engineering is one of the dynamic departments of the institute. It bequeaths students with the capability to apply knowledge for working proficiently in multidisciplinary teams. The department also bestows leadership and technical expertise, and practise engineering with ethical approaches. The department not only aim to make students technically sound and knowledgeable but also to nurture their wisdom and make them better and more responsible human being. The department strives to deliver, serve society and mankind. The department is happy to note that majority of the students are placed in Core companies and IT sectors. The good number of students are pursuing higher education abroad.

Bit & Byte Bulletin

Innovate. Integrate. Illuminate

VISION AND MISSION 🏹

VISION :

To develop a pioneer in evolving competent professional with societal and ethical values through transformational learning and interdisciplinary research in the field of Electronics and Communication Engineering.

MISSION :

1. Providing strong conceptual based teaching learning methodology to achieve excellent skill sets in design and development.
2. Impart knowledge in emerging areas through Industry interactions, technical talks and seminars.
3. Encouraging students to develop their creative thinking, acquire employable skills, and pursue entrepreneurship.
4. Imbibing human values and ethics to make them socially responsible professionals.

Faculty Profiles – Department of ECE

Head Of The Department

Dr. Veeresh Patil serves as the Head of the Department of Electronics and Communication Engineering at Amruta Institute of Engineering and Management Sciences (AIEMS), Bidadi, Bengaluru. He holds a Doctorate in Wireless Communication with a focus on LTE Networks from Rabindranath Tagore University, Bhopal.

Dr. Patil is an experienced marketing director with a demonstrated history in the computer software industry and the education field. His areas of expertise include mobile applications, technical recruiting, networking, and people management. A passionate educator and visionary leader, he is committed to academic excellence, industry relevance, and empowering students through innovative learning

Teaching Faculty

Dr. Pratibhadevi T
Professor
B.E, M.Tech, Ph.D

Dr. Anitha N
Assistant Professor
B.E, M.Tech, Ph.D

Prof. Madhusudan S
Assistant Professor
B.E, M.Tech (Ph.D)

Prof. Rekha S
Assistant Professor
B.E, M.Tech

Prof. Rashmi S
Assistant Professor
B.E, M.Tech

Prof. Chethana S
Assistant Professor
B.E, M.Tech, (Ph.D)

Non-Teaching Faculty

Siddalingesh Jalageri
Lab Instructor
Diploma

Mallapa
Attender
S.S.L.C

FACULTY HIGHLIGHTS

Dr. Veeresh Patil Serves on VTU LIC Panel

Dr. Veeresh Patil, Head of the ECE Department, served as a team member of the VTU Local Inspection Committee (LIC) on 10th and 11th February 2025. His involvement in the committee reflects his academic leadership and commitment to upholding quality standards in technical education. As part of the LIC, he contributed to the assessment and evaluation processes of affiliated institutions under Visvesvaraya Technological University (VTU). This role underscores his expertise and the department's active engagement in regulatory and academic responsibilities.

Dr. Veeresh Patil, Head of the ECE Department, served as a team member of the VTU Local Inspection Committee (LIC) for the inspection visit at **Government Engineering College, Challakere.** His involvement reflects the department's active participation in academic quality assurance and institutional development initiatives under VTU.

Dr. Veeresh Patil, Head of the ECE Department, served as a team member of the VTU Local Inspection Committee (LIC) for the institutional inspection at **PES Institute of Technology and Management, Shivamogga.** His contribution highlights the department's engagement in supporting academic standards and regulatory processes across VTU-affiliated institutions.

Leadership Beyond Borders: Dr. Veeresh Patil Participated in Malaysia Conference

Dr. Veeresh Patil, Head of the ECE Department, had two of his research papers selected for prestigious international conferences. The papers, titled **"Comparative Analysis of Intelligent Control Techniques for Power Quality Improvement in Industrial Drives"** and **"Implementation of a Fast-Settling CMOS Op-Amp Designed in 0.13µm Technology"**, were presented at RITESI 4.0 on 26th March 2025 at Reva University, Bangalore, and at the First International Conference hosted by Universiti Tunku Abdul Rahman (UTAR), Malaysia, from 27th to 29th March 2025, highlighting the department's academic excellence on a global platform.

Dr. Pratibhadevi Tapashetti Recognized as ICICACS-2025 Reviewer


H.K.E. SOCIETY'S
Sir M Visvesvaraya College of Engineering, Raichur
(Affiliated to VTU, Approved by AICTE, Accredited by NAAC)
Technical Co-Sponsors IEEE BANGALORE SECTION
Certificate of Appreciation
This is to recognise the contribution of
Dr. Pratibhadevi Tapashetti
Amruta Institute of Engineering and Management Sciences,Bidadi
as REVIEWER for 3rd International Conference on Integrated Circuits and Communication Systems (ICICACS - 2025) organized by Department of Electronics and Communication Engineering, H.K.E. SOCIETY'S Sir M Visvesvaraya College of Engineering, Raichur during 21st & 22nd February 2025.
Dr. Vishwanath P
Prof. & Head, Dept. of ECE
SMVCE, Raichur
Dr. R. Basawaraja
Principal
SMVCE, Raichur

Dr. Pratibhadevi Tapashetti, Professor in the ECE Department, was recognized for her contribution as a reviewer at the 3rd International Conference on Integrated Circuits and Communication Systems (ICICACS-2025). The conference was organized by the Department of ECE, H.K.E. Society's Sir M. Visvesvaraya College of Engineering, Raichur, and held on 21st and 22nd February 2025. Her involvement highlights the department's active engagement in academic and research communities.

Dr. Pratibhadevi Tapashetti Recognized as Expert Reviewer at IEEE BHTC 2025

Dr. Pratibhadevi Tapashetti was acknowledged for her contribution as an Expert Reviewer at the IEEE Bangalore Humanitarian Technology Conference (BHTC - 2025), conducted on 25th April 2025. Organized by the IEEE Bangalore Section in collaboration with IEEE NKSS, the event was hosted at KLS GIT, Belagavi. Her role in evaluating technical content and providing scholarly insights underlines her expertise and commitment to advancing humanitarian-focused engineering research.


IEEE
BHTC 2025
IEEE Bangalore Humanitarian Technology Conference
Certificate of Appreciation
This is to recognize the contribution of
Dr. Pratibhadevi Tapashetti
Amruta Institute Of Engineering And Management Sciences
Expert Reviewer
for IEEE Bangalore Humanitarian Technology Conference BHTC - 2025, held on 25th April 2025 organized by IEEE Bangalore Section in collaboration with IEEE NKSS hosted at KLS GIT Belagavi.
Prof. Abhishek Deshmukh
Dr. M. S. Patil
Dr. Chengappa Mujandira
Dr. Chandrakanta Kumar
IEEE Conference ID: 64616

Dr. Pratibhadevi Tapashetti Serves as Session Chair at ICCSCE-2025, Hyderabad

HOLY MARY INSTITUTE OF TECHNOLOGY & SCIENCE

INTERNATIONAL CONFERENCE ON
COMPUTER SCIENCE AND COMMUNICATION ENGINEERING
(ICCSCE-2025)

CERTIFICATE OF APPRECIATION

This certificate is proudly presented to Dr. Pratibhadevi Tapashetti, Professor of ECE, Amruta Institute of Engineering and Management Sciences, Bangalore in recognition of their outstanding service and contribution as a Session Chair on date 25/04/2025 & 26/04/2025 at Holy Mary Institute of Technology & Science, Hyderabad. Your dedication and expertise have greatly contributed to the success of this event. Looking forward to your cooperation in future endeavors

DR. Y. DAVID SOLOMON RAJU
CONVENER

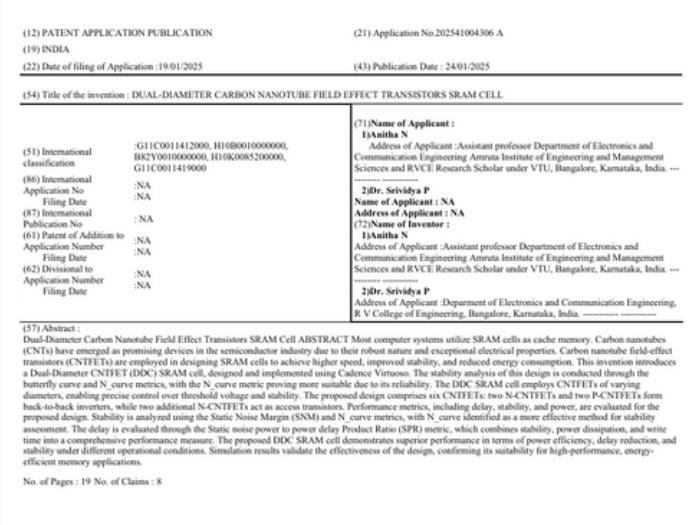
DR. J B V SUBRAHMNAYAM
PRINCIPAL

Dr. Pratibhadevi Tapashetti, Professor in the ECE Department at Amruta Institute of Engineering and Management Sciences, was honored with a Certificate of Appreciation for her role as Session Chair at the International Conference on Computer Science and Communication Engineering (ICCSCE-2025). The event was held on 25th and 26th April 2025 at Holy Mary Institute of Technology & Science, Hyderabad. Her valuable contribution and expert guidance significantly enhanced the quality and success of the conference sessions.

Ph.D. Awarded to Dr. Anitha N in VLSI Domain

Dr. Anitha N, faculty member of the Electronics and Communication Engineering Department, was awarded a Doctor of Philosophy (Ph.D.) by Visvesvaraya Technological University (VTU), Belagavi, on 8th February 2025. Her research focused on Carbon Nanotube Technology in the VLSI domain, contributing to advancements in nanoelectronics and next-generation semiconductor design. This achievement highlights her dedication to academic excellence and innovative research.

Anitha N and Dr. Srividya P File Patent for Advanced Dual-Diameter CNTFET-Based SRAM Cell Design



(12) PATENT APPLICATION PUBLICATION
(21) Application No.202541004306 A
(19) INDIA
(22) Date of filing of Application :19/01/2025
(43) Publication Date : 24/01/2025

(54) Title of the invention : DUAL-DIAMETER CARBON NANOTUBE FIELD EFFECT TRANSISTORS SRAM CELL

(51) International classification :G11C0011412000, H10B0010000000, B82Y0010000000, H10K0085200000, G11C0011419000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :
1)Anitha N
Address of Applicant :Assistant professor Department of Electronics and Communication Engineering Amruta Institute of Engineering and Management Sciences and RVCE Research Scholar under VTU, Bangalore, Karnataka, India. ---
2)Dr. Srividya P
Name of Applicant : NA
Address of Applicant : NA
(72)Name of Inventor :
1)Anitha N
Address of Applicant :Assistant professor Department of Electronics and Communication Engineering Amruta Institute of Engineering and Management Sciences and RVCE Research Scholar under VTU, Bangalore, Karnataka, India. ---
2)Dr. Srividya P
Address of Applicant :Deparment of Electronics and Communication Engineering, R V College of Engineering, Bangalore, Karnataka, India. ---

(57) Abstract :
Dual-Diameter Carbon Nanotube Field Effect Transistors SRAM Cell ABSTRACT Most computer systems utilize SRAM cells as cache memory. Carbon nanotubes (CNTs) have emerged as promising devices in the semiconductor industry due to their robust nature and exceptional electrical properties. Carbon nanotube field-effect transistors (CNTFETs) are employed in designing SRAM cells to achieve higher speed, improved stability, and reduced energy consumption. This invention introduces a Dual-Diameter CNTFET (DDC) SRAM cell, designed and implemented using Cadence Virtuoso. The stability analysis of this design is conducted through the butterfly curve and N_curve metrics, with the N_curve metric proving more suitable due to its reliability. The DDC SRAM cell employs CNTFETs of varying diameters, enabling precise control over threshold voltage and stability. The proposed design comprises six CNTFETs: two N-CNTFETs and two P-CNTFETs form back-to-back inverters, while two additional N-CNTFETs act as access transistors. Performance metrics, including delay, stability, and power, are evaluated for the proposed design. Stability is analyzed using the Static Noise Margin (SNM) and N_curve metrics, with N_curve identified as a more effective method for stability assessment. The delay is evaluated through the Static noise power to power delay Product Ratio (SPR) metric, which combines stability, power dissipation, and write time into a comprehensive performance measure. The proposed DDC SRAM cell demonstrates superior performance in terms of power efficiency, delay reduction, and stability under different operational conditions. Simulation results validate the effectiveness of the design, confirming its suitability for high-performance, energy-efficient memory applications.

No. of Pages : 19 No. of Claims : 8

Anitha N, Assistant Professor in the Department of Electronics and Communication Engineering at Amruta Institute of Engineering and Management Sciences (AIEMS), Bidadi, along with Dr. Srividya P from R V College of Engineering, has filed a patent titled “Dual-Diameter Carbon Nanotube Field Effect Transistors (CNTFET) SRAM Cell”.

Published on 24th January 2025, the invention introduces a high-performance SRAM cell using dual-diameter CNTFETs, offering enhanced speed, stability, and energy efficiency. The design's effectiveness was validated through comprehensive metrics like Static Noise Margin (SNM), N-curve, and Static Product Ratio (SPR), marking a notable advancement in semiconductor memory technologies.

Dr. Pratibhadevi Tapashetti Completes AICTE-ATAL FDP on Next Gen Communication for IoT and Industrial Automation

Dr. Pratibhadevi Tapashetti, Professor in the ECE Department at Amruta Institute of Engineering and Management Sciences, successfully completed a Faculty Development Program under the AICTE Training and Learning (ATAL) Academy. The FDP titled “Next Gen Communication for IoT and Industrial Automation” was hosted by Holy Mary Institute of Technology & Science from 20th to 25th January 2025. This program focused on emerging trends in communication technologies and their applications in the rapidly evolving fields of IoT and automation, further enriching her academic and technical expertise.

ATAL/2024/1734411580

Skill India
ATAL

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
Nelson Mandela Marg, Vasant Kunj, New Delhi -110070
AICTE Training and Learning (ATAL) Academy

Certificate

It is certified that Dr. Pratibhadevi Tapashetti, Professor of Amruta Institute of Engineering and Management Science has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on Next Gen Communications for IoT and Industrial Automation at HOLY MARY INSTITUTE OF TECHNOLOGY & SCIENCE from 20/01/2025 to 25/01/2025.

David Solomon Raju Yellampalli
Associate Professor Level (AICTE Institute), Coordinator
HOLY MARY INSTITUTE OF TECHNOLOGY & SCIENCE

Dr. Sunil Luthra
Director & Bureau Head
Training and Learning Bureau, AICTE

Dr. Pratibhadevi Tapashetti Participates in National FDP on Innovation and Entrepreneurship


Faculty Development Program on

Innovation and Entrepreneurship

Certificate of Participation

This Certificate is awarded to

Dr. PRATIBHADEVI TAPASHETTI

for participating in the **Faculty Development Program** on **Innovation and Entrepreneurship**, held from **7th to 11th April 2025** at **Center For Entrepreneurship (CFE), Ramaiah University of Applied Sciences (RUAS)**, organised by All India Council for Technical Education (AICTE) and Ministry of Education's Innovation Cell(MIC).

Prof. T. G. Sitharam, Chairman, AICTE, Ministry of Education, Govt. of India

Dr. Abhay Jere, Vice Chairman, AICTE & Chief Innovation Officer (CIO), Ministry of Education, Govt. of India

Dr. Sonali Gupta, Professor & Director, CFE, RUAS

Dr. Pratibhadevi Tapashetti successfully participated in the Faculty Development Program on Innovation and Entrepreneurship held from 7th to 11th April 2025. The program was conducted at the Center for Entrepreneurship (CFE), Ramaiah University of Applied Sciences (RUAS), and organized by the All India Council for Technical Education (AICTE) and the Ministry of Education's Innovation Cell (MIC). This FDP aimed to foster innovation-driven thinking and entrepreneurial skills among faculty members, equipping them to mentor future innovators and change-makers.

Mrs. Rashmi S Explores Indian Knowledge Systems in AI and ECE FDP at GSSSIETW, Mysuru

Mrs. Rashmi S, Assistant Professor in the ECE Department, attended a three-day online FDP titled "Connecting Tradition and Innovation: A Faculty Exploration of Indian Knowledge Systems." The program, conducted from 3rd to 5th March 2025, was organized by the Department of Artificial Intelligence and Data Science and Department of ECE, GSSSIETW, Mysuru. It focused on integrating traditional Indian knowledge into modern academic frameworks.


GSSS INSTITUTE OF ENGINEERING AND TECHNOLOGY FOR WOMEN

(Affiliated to Visvesvaraya Technological University, Belagavi, Approved by AICTE New Delhi & Govt. of Karnataka)

KRS Road, Metagalli, Mysuru - 570016

CERTIFICATE

This is to certify that **Rashmi S,** Amruta Institute of Engineering and Management Sciences has participated in **Three-Day Online FDP** on **"Connecting Tradition and Innovation: A Faculty Exploration of Indian Knowledge Systems"** organized by the Department of Artificial Intelligence & Data Science and Department of Electronics & Communication Engineering , GSSSIETW, Mysuru from 3rd to 5th March 2025.

Dr. Roopashree H R, Professor and Head, Dept.of AI&DS, GSSSIETW, Mysuru

Dr. Rajendra R Patil, Professor and Head, Dept.of ECE, GSSSIETW, Mysuru

Dr. Shivakumar M, Principal, GSSSIETW, Mysuru

Mrs. Rashmi S Engages in International FDP on Academic Excellence and Research Design


Seshadripuram Educational Trust

Seshadripuram Evening College

No. 27, Nagappa Street, Seshadripuram, Bengaluru – 560 020

NAAC Accredited 'A' Grade | ISO 9001 : 2015 Certified

Prerana.... The IQAC Initiative

Anveshana - Research Cell

In association with

Research Learning Circle

(An online Platform for IIT, IIM & Research Scholars)

Kharagpur, West Bengal.

is organising

7 Days International Virtual FDP

Certificate Of Participation

This is to certify that Rashmi S

of Amruta Institute of Engineering and Management Sciences

has participated in the 7 Days International Virtual FDP on Nurturing Futuristic Academic Excellence : Enhancing Abilities in Data Analysis, Literature Review & Research Design held from 17th to 23rd March, 2025.

DR. WOODAY P. KRISHNA

MR. JAWAHAR KUMAR

PROF. N.S. SATISH

Principal

Mrs. Rashmi S, Assistant Professor in the ECE Department, participated in a seven-day virtual Faculty Development Program from 17th to 23rd March 2025 on the theme "Nurturing Futuristic Academic Excellence: Enhancing Abilities in Data Analysis, Literature Review, and Research Design." The FDP was jointly organized by Anveshana – Research Cell and IQAC of Sheshadripuram Evening College, in association with the Research Learning Circle, Kharagpur. The program aimed to equip faculty with essential research methodologies and enhance their academic and analytical capabilities

Mrs. Rashmi S Attends National Workshop on PCB Design and Fabrication by EMATIX

Mrs. Rashmi S also took part in a national-level workshop on "PCB Design and Fabrication", organized by EMATIX Embedded and Software Solutions Inc. The three-day online workshop, held from 31st March to 2nd April 2025, provided hands-on exposure to designing and fabricating printed circuit boards, enhancing technical competency in electronics hardware development.


EMATIX

Embedded & Software Solutions Pvt Ltd

Approved by: Ministry of Corporate Affairs (Govt. of India)

Certificate

of Participation

Rashmi S

This is to certify that ..... from Amruta Institute of Engineering and Management Sciences ..... has successfully participated in 3 days National Level workshop on PCB Design and Fabrication conducted by EMATIX Embedded & Software Solutions Inc, from March 31,2025 to April 02,2025.

Er.S SARAN

OPERATIONAL MANAGER

Er.K.MOULEESWARAN

BUSINESS INTELLIGENCE ANALYST

DEPARTMENT CHRONICLES

IoT and Robotics Skill Lab Conducted by ECE Department

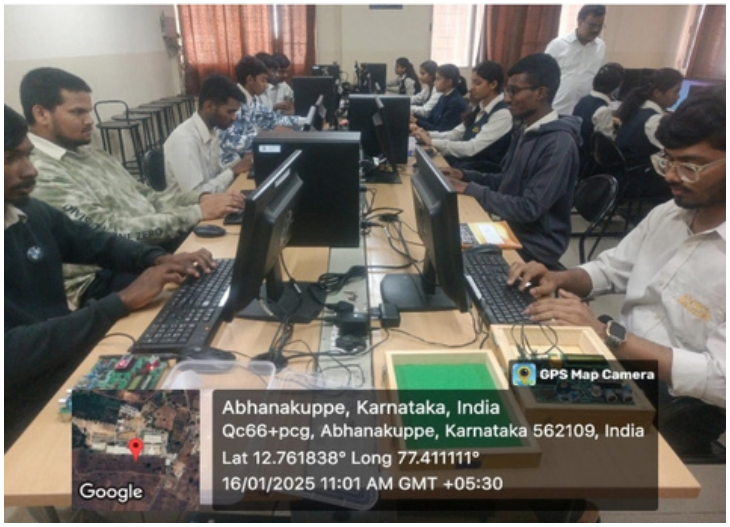
The Department of Electronics and Communication Engineering organized a Skill Lab on IoT and Robotics, offering students hands-on experience in two of the most in-demand technological domains. The lab aimed to equip participants with practical knowledge of microcontrollers, sensors, automation, and real-time data communication. Through guided sessions and project-based learning, students explored the fundamentals of IoT systems and robotic control, fostering innovation and technical competency. The initiative reflects the department's ongoing commitment to bridging academic learning with industry-relevant skills.

Skill Lab on Internet of Things (IoT) Empowering Practical Learning

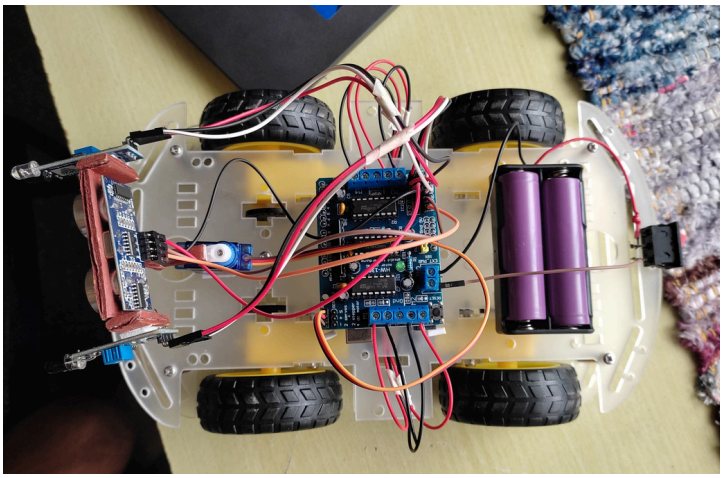
LIST OF EXPERIMENTS

Sl No	List of Experiments
	Introduction to Arduino board & Sensors
	Part-A
1	Turning LED On/Off using Arduino
2	Turning Multiple LED On/Off using Arduino
3	Interfacing Switch (push button)-LED using Arduino
4	Ultrasonic Sensor using Arduino
5	Ultrasonic Sensor-LED Interface using Arduino
6	DC motor for Fan control using IR sensor using Arduino
7	Door Sensor using Arduino
8	Touch Sensor using Arduino
	Part-B
9	LCD Display using Arduino
10	Moisture Sensor using Arduino
11	Flame Sensor using Arduino
12	LDR Sensor using Arduino
13	Humidity Sensor using Arduino
14	Smoke sensor using Arduino
15	Water level sensor using Arduino

Skill Lab on Internet of Things (IoT)
Empowering Practical Learning

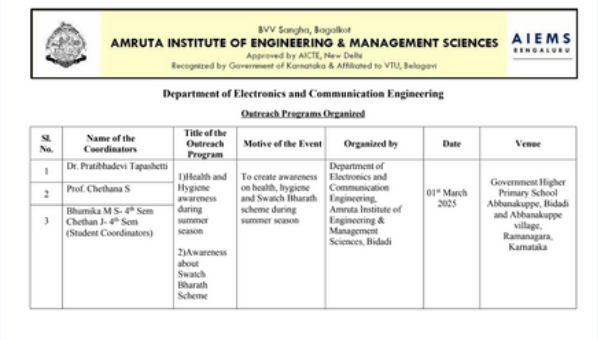


Robotics Skill Lab Enhances Hands-on Automation Experience



ECE Department Conducts Outreach Program on Health, Hygiene, and Swachh Bharat Awareness

The Department of Electronics and Communication Engineering at Amruta Institute of Engineering and Management Sciences, Bidadi, organized an outreach program on 1st March 2025 at Government Higher Primary School, Abbanakuppe, Bidadi, and Abbanakuppe village, Ramanagara, Karnataka. The initiative aimed to raise awareness about health and hygiene during the summer season and educate the community on the importance of the Swachh Bharat Scheme. The program was coordinated by Dr. Pratibhadevi Tapashetti and Prof. Chethana S, with active participation from student coordinators Bhumika M S and Chethan J from the 4th semester. This socially driven event highlighted the department's commitment to community engagement and public health awareness.



BVV Sangha, Bagalkot

AMRUTA INSTITUTE OF ENGINEERING & MANAGEMENT SCIENCES

AIEMS BENGALURU

Approved by AICTE, New Delhi

Recognized by Government of Karnataka & Affiliated to VTU, Belagavi

Department of Electronics and Communication Engineering

Outreach Programs Organized

Sl. No.	Name of the Coordinators	Title of the Outreach Program	Motive of the Event	Organized by	Date	Venue
1	Dr. Pratibhadevi Tapashetti	1)Health and Hygiene awareness during summer season 2)Awareness about Swatch Bharath Scheme	To create awareness on health, hygiene and Swatch Bharath scheme during summer season	Department of Electronics and Communication Engineering, Amruta Institute of Engineering & Management Sciences, Bidadi	01st March 2025	Government Higher Primary School Abbanakuppe, Bidadi and Abbanakuppe village, Ramanagara, Karnataka
2	Prof. Chethana S					
3	Bhumika M S- 4th Sem Chethan J- 4th Sem (Student Coordinators)					

EMPOWERING STUDENTS TO ACHIEVE GLOBAL SUCCESS 🚀

The Department of Computer Science & Engineering organized an insightful seminar on "Empowering Students to Achieve Global Success" for 6th Semester BE students on March 21, 2025. The session focused on career growth, industry trends, global opportunities, and essential skills required to thrive in today's competitive world. Expert speakers shared valuable insights, inspiring students to think beyond boundaries and prepare for global challenges. The event was a great success, leaving students motivated and ready to shape their future!

STUDENT SPOTLIGHTS

ECE Students Secure KSCST Funding for Innovative IoT-Based Dam Automation Project

BVV Sangha, Bagalkot
AMRUTA INSTITUTE OF ENGINEERING & MANAGEMENT SCIENCES
Approved by AICTE, New Delhi
Recognized by Government of Karnataka & Affiliated to VTU, Belagavi
AIEMS BENGALURU

Department of Electronics and Communication Engineering

Details of the Student Projects that have received Funding

Sl. No.	Name of the Students	USN	Title of the Project	Funding Agency	Funding Received in ₹/-	Name of the Project Guide
1	Mr. Dileep N	1AR21EC005	Integrated IOT based Dam Automation System	Karnataka State Council for Science & Technology (KSCST)	5,000 /-	Dr. Veeresh Patil Prof. Chethan S
2	Ms. Rakshitha	1AR21EC017				
3	Mr. Ritesh Mahendrakar	1AR21EC019				

Final-year students of the Department of Electronics and Communication Engineering Mr. Ritesh Mahendrakar, Mr. Dileep N, and Ms. Rakshitha have successfully received funding of ₹5,000 from the Karnataka State Council for Science and Technology (KSCST) for their project titled "Integrated IoT Based Dam Automation System." Guided by Dr. Veeresh Patil and Prof. Chethan S, the project aims to modernize dam operations using IoT technologies, demonstrating the department's ongoing commitment to impactful, real-world engineering solutions.

INTERNSHIP CERTIFICATE – INTERNSHALA

Yashaswini Polimera Selected for Web Design Content Writing Internship at Earth5R


INTERNSHALA

Certificate of Selection

Yashaswini Polimera

from **Amrutha Institute Of Engineering And Management Sciences** has successfully secured **Web Design Content Writing** internship at **Earth5R** through Internshala.

Sarvesh Agrawal
Founder & CEO, Internshala

Date of certification: February 20, 2025

Yashaswini Polimera from the Amrutha Institute of Engineering and Management Sciences has secured a prestigious internship in Web Design Content Writing with Earth5R, facilitated by Internshala. This achievement showcases the student's initiative and creative communication skills in the digital domain.

Global Research Expedition: Shwetha Selected for LunAres Analog Space Mission in Poland

Invitation letter – scientific and medical research in LunAres, Poland

Powered by SPACE GARDEN

Date: 17.04.2025
Wrocław, Poland

Dear Shwetha,

On behalf of the LunAres Research Station and Space is More company, I would like to invite you to participate in the scientific and medical research project - analog space mission simulation carried out in the LunAres Research Station, in the city of Piła, Poland. The research project is conducted from 05.11.2025 until 22.11.2025 and it requires on-site participation. During the project, LunAres Research Station provides the participant with accommodation at Piła Airport, hangar 11, 64-930, Piła.

The research is conducted in collaboration with Polish scientific institutions, Pomeranian Medical University in the city of Szczecin, the Silesian University of Technology in the city of Gliwice and the Silesian University in the city of Katowice. The scientific campaign's main objective is the study of neurological and psychological effects of isolation. The productivity, creativity and general health are influenced significantly by the conditions in which people function, therefore it is important to research the impact of extreme environments of isolation as it is still unknown.

The LunAres Research Facility, established in 2017, is a specialized laboratory for conducting simulated human space missions, known as analog missions. One of the main goals of the facility is to study the health, psychology, and sociology of six-person crews who are locked in a 165 square metres habitat. Additionally, the character of LunAres Research Station - being an analog habitat, provides researchers with a great opportunity of combining those medical and psychological studies with the space mission scenarios.

LunAres Research Station
Address: Piła Airport, hangar 11, 64-930, Piła
Phone number: +48698821511
Email address: info@lunares.space
Registration Number (KRS):
0000676671

LunAres Director signature

Shwetha from Amruta Institute of Engineering and Management Sciences has been selected to participate in a prestigious international scientific and medical research project at the **LunAres Research Station in Piła, Poland.** Conducted in collaboration with leading Polish universities, the project simulates space mission environments to study the neurological and psychological impacts of isolation. Scheduled from 5th to 22nd November 2025, this on-site research initiative offers a unique opportunity to contribute to space science and human psychology.

PLACEMENT SUMMARY 2025

ECE Department Celebrates Student Placement Successes for 2025

The Department of Electronics and Communication Engineering proudly announces successful placements for 2025. Monisha P has been placed at M/s Forvia Technologies, Bidadi, with a competitive package of 3 LPA. Rakshitha S is also among the successfully placed students, showcasing the department's strong industry linkage and student excellence.

BVV Sangha, Bagalkot
AMRUTA INSTITUTE OF ENGINEERING & MANAGEMENT SCIENCES
Approved by AICTE, New Delhi
Recognized by Government of Karnataka & Affiliated to VTU, Belagavi
AIEMS BENGALURU

Department of Electronics and Communication Engineering

Details of the Placements 2025

Sl. No.	Name of the Student	Company with Package
1	Monisha P	M/s Forvia Technologies, Bidadi with a CTC of 3LPA
2	Rakshitha S	

ECE Students Participate in VTU State Athletic Meet

Anand M Vernekar and Yashwanth Gowda, students of the ECE Department, actively participated in the **VTU 26th State-Level Intercollegiate Athletic Meet 2024–25,** held at Jawaharlal Nehru New College of Engineering, Shivamogga. Demonstrating remarkable athletic performance, Anand M Vernekar secured the 4th position among 70 participants, showcasing the department's commitment to excellence not only in academics but also in sports.

Anand M Vernekar, a talented ECE student, showcased his exceptional athletic skills at the VTU Level Long Jump event in Shivamogga, securing an impressive **4th position**. Competing against top athletes, he demonstrated dedication, precision, and outstanding performance. His achievement reflects both hard work and sportsmanship, bringing pride to the institution. Congratulations to Anand on this remarkable feat

INTERCOLLEGE PARTICIPATION:

Students Excel at Jnana Vignana Tanatragnana Mela 2025

Students from the ECE Department actively participated in the Jnana Vignana Tanatragnana Mela (JVTM) 2025, held at BGS Institute of Technology, Adichunchanagiri, on 19th and 20th February 2025. Multiple student teams took part in various events such as project presentations, quiz competitions, and PowerPoint sessions, showcasing their technical knowledge and creative thinking. The event provided a valuable platform for students to engage in hands-on learning and present innovative ideas addressing real-world challenges. Their participation was marked by enthusiasm, collaboration, and a strong display of engineering principles. The efforts of the students were well-received by event organizers and judges, bringing pride and recognition to the department. Such events contribute significantly to building confidence and nurturing future-ready engineers.

Events :

1. Model Presentation
2. PowerPoint Presentation
3. Quiz Competition

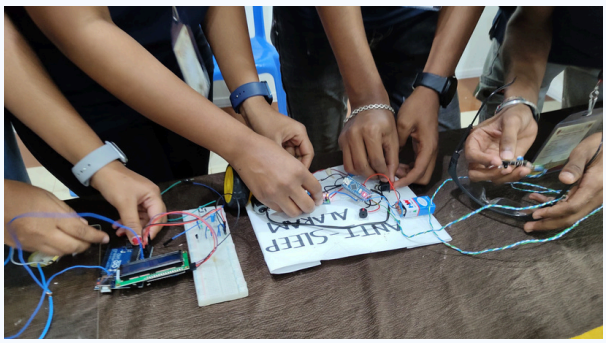
Model Presentation

Team : 01

Rajkamal Vishwakarma, Shravana Amargol, and Yashaswini P, students of the ECE Department, participated in the Project Presentation event at the Jnana Vignana Tanatragnana Mela (JVTM) 2025, held at BGS Institute of Technology, Adichunchanagiri. Their project, titled "TOXIC TRAIL BLAZER," was presented under the theme "Addressing Environmental Issues and Climate Change", showcasing their commitment to sustainability and innovation through engineering solutions.

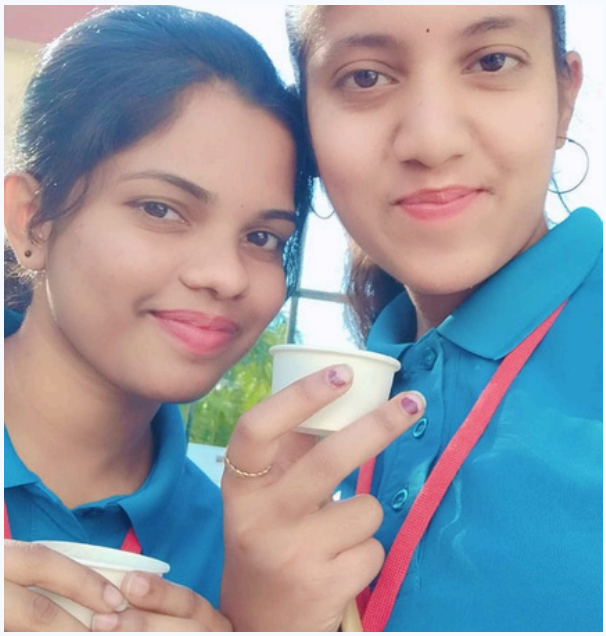
Team : 02

Amar, Bhumika, Sinchana, and Prajwal, students from the ECE Department, participated in the Project Presentation at the Jnana Vignana Tanatragnana Mela (JVTM) 2025, hosted by BGS Institute of Technology, Adichunchanagiri. Their project, titled "ANTISLEEP ALARM," was presented under the theme "Shaping the Future of Life: Health and Well-being", aiming to address real-life challenges through practical and innovative solutions.



PowerPoint Presentation

Team : 01

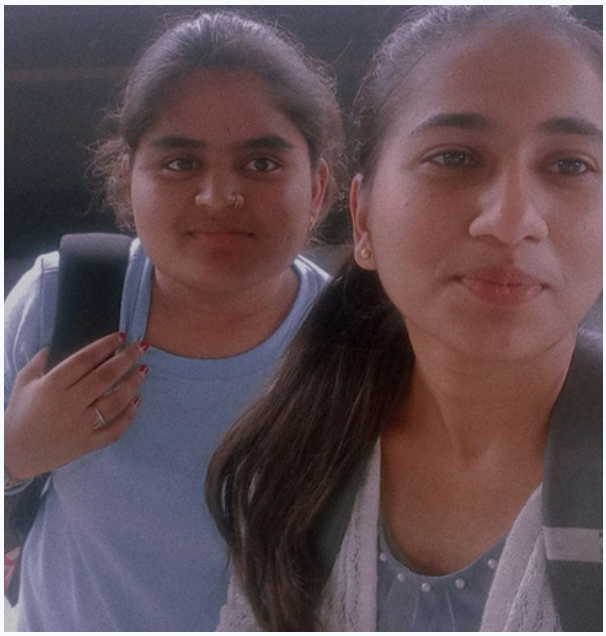


Pooja Gowda and Tejaswini, students of the ECE Department, participated in the PowerPoint Presentation event at the Jnana Vignana Tanatragnana Mela (JVTM) 2025, held at BGS Institute of Technology, Adichunchanagiri. The presentation was based on the theme "Shaping the Future of Life: Health and Well-being," reflecting their innovative approach and understanding of socially relevant issues.

Quiz Competition

Team : 01

Kushi P and Nandini K, students of the ECE Department, participated in the Quiz Competition at the Jnana Vignana Tanatragnana Mela (JVTM) 2025, held at BGS Institute of Technology, Adichunchanagiri. Their active involvement demonstrated their strong general and technical knowledge, adding value to the department's representation at the event.



Innovating Forward: ECE Students Participate in Akshaya Anveshana 2K25

Beyond the Classroom, Into the Spotlight

Students from the ECE Department actively participated in **Akshaya Anveshana 2K25**, held on 25th and 26th March 2025 at Tumakuru, marking a significant presence at this prestigious intercollegiate technical event. A total of 34 students represented the department across various competitions, demonstrating creativity, technical prowess, and team spirit.

Among them, three teams consisting of two students each a total of 6 students—competed in the Technoforge event, where they presented innovative solutions and prototypes. Notably, one of these teams, featuring Anurag P. Shirodkar and Anand M. Vernekar, achieved a remarkable feat by securing a position among the top 5 teams, earning well-deserved recognition.

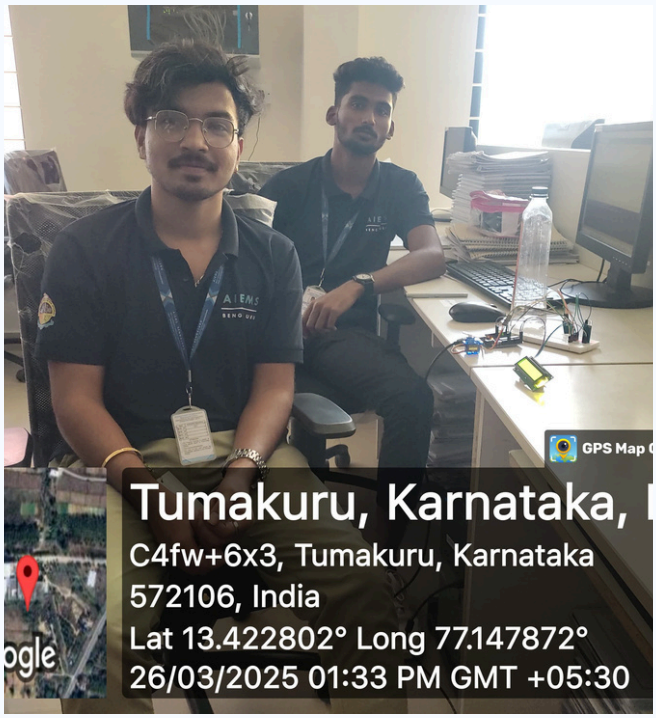
In addition, 8 teams comprising 4 students each—amounting to 28 students—participated in the Inno Venture Hackathon, a dynamic competition that challenged students to ideate, design, and develop solutions to real-world problems. Their enthusiastic involvement in this event reflected their dedication to pushing boundaries and embracing collaborative innovation.

Event :

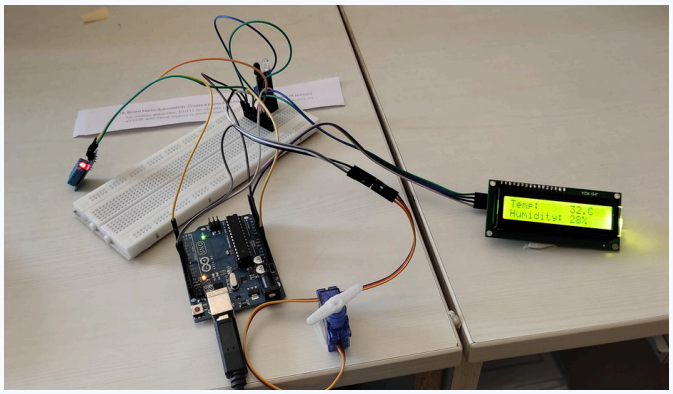
1. Technoforge
2. Inno Venture Hackathon
3. SwiftBot: Robo Race

TECHNOFORGE. 💪

TEAM: ELECTRO SPARKS ⚡



Anurag P. Shirodkar and Anand M. Vernekar from the ECE Department, under the team name Electro Sparks, proudly participated in Technoforge at Akshaya Anveshana 2K25, held in Tumakuru on 26th March 2025. Showcasing technical excellence and innovative thinking, the duo secured a place in the top 5 teams, bringing recognition and pride to the department.



TEAM: IGNITERS 🔥

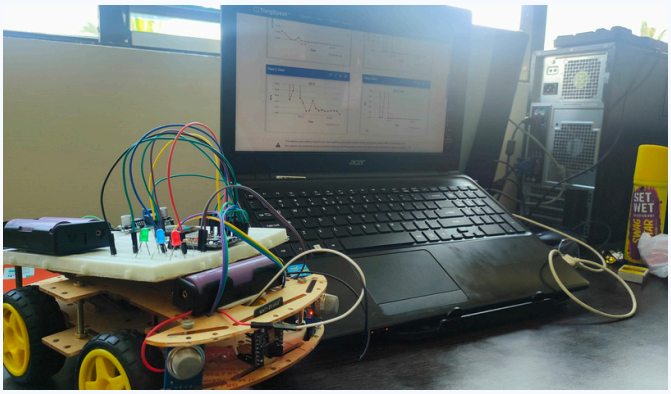
Mohammed Musayyib Shaikh and Mohammed Resalath from the ECE Department, competing under the team name Ignites, actively participated in Technoforge at Akshaya Anveshana 2K25, held in Tumakuru on 26th March 2025. They showcased commendable technical skills and creativity, gaining valuable experience and representing the department with enthusiasm and dedication.

INNO VENTURE HACKATHON

A total of 28 students from the ECE Department enthusiastically participated in the Inno Venture 24-hour Hackathon held during Akshaya Anveshana 2K25. Divided into 8 teams with 4 members each, the students showcased their technical prowess and creative thinking throughout the intense, round-the-clock challenge. The event provided a platform to apply classroom knowledge to real-world problems, fostering innovation, collaboration, and resilience under pressure.

TEAM: ALPHA

Rajkamal Vishwakarma, Shravana Amargol, Yashaswini P, and Abhinav Patil, students of 6th semester ECE, participated in TECHNIKA 2K25 – Akshaya Anveshana, held at Akshaya Institute of Technology, Tumkur on 25th and 26th March 2025. They took part in the 24-hour InnoVenture Hackathon, where they presented their innovative project titled “TOXIC TRAIL BLAZER.” The event provided them with a platform to apply their technical skills and creativity toward solving real-world problems through engineering solutions.



TEAM: THE FIGHTERS 💪

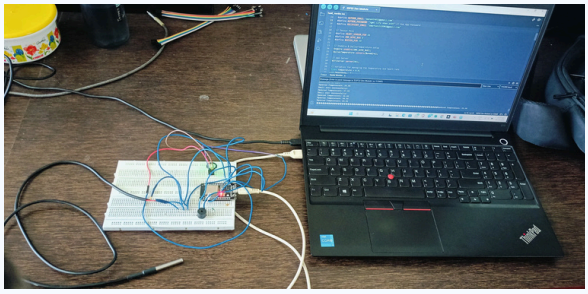
Padmashri Aralikatti, Maithri K N, Manoj S T, and Srimanth Rao, students of 6th semester ECE, participated in TECHNIKA 2K25 – Akshaya Anveshana, organized at Akshaya Institute of Technology, Tumkur, on 25th and 26th March 2025. They took part in the 24-hour InnoVenture Hackathon, where they showcased their innovative project titled “Fire Fighting Robot.” The team demonstrated excellent collaboration, creativity, and technical expertise in designing a solution aimed at enhancing safety through automation. Their participation highlights the department’s commitment to practical learning and societal impact through technology.

TEAM: POWER QUAD 🔥

A Barath Kumar, Kushi Acharya, and Nandini, students of 6th semester ECE, participated in the 24-hour InnoVenture Hackathon at TECHNIKA 2K25 – Akshaya Anveshana, held at Akshaya Institute of Technology, Tumkur. They showcased their project titled “Real-Time Clock with Temperature Display using Arduino UNO”, demonstrating strong innovation, teamwork, and technical skills.

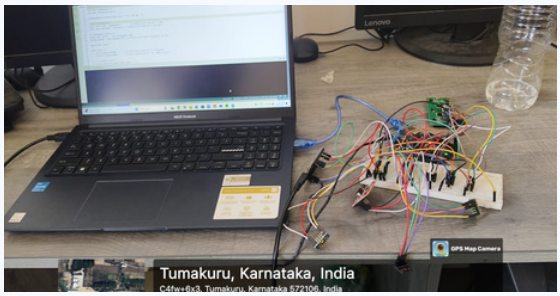
TEAM: RISING STARS 🌟

Bhumika M S, Amar, Prakruthi K, and Mahanthrishi, 4th semester ECE students, participated in the 24-hour InnoVenture Hackathon at TECHNIKA 2K25 – Akshaya Anveshana, organized by Akshaya Institute of Technology, Tumkur. They presented an innovative project, 'IoT-Based Health Monitoring System,' showcasing their technical expertise, creativity, and teamwork in developing a real-time automation solution for agricultural applications

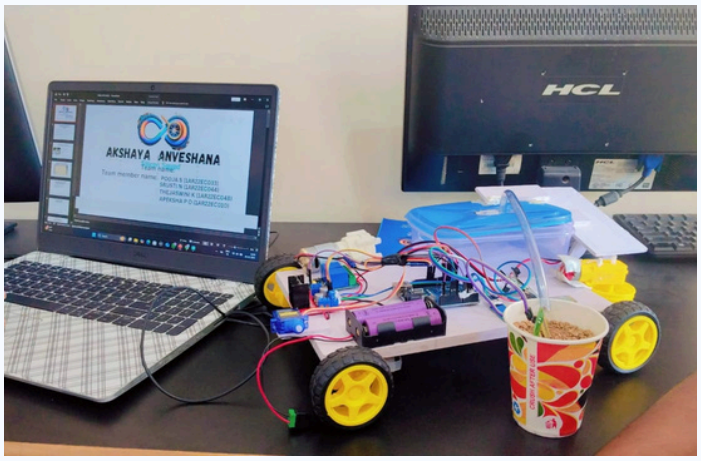


TEAM: TEAM TECHNO 🤖

Rakshitha R, Chaithanya V, Aishwarya BH, and Gunavathi HR, 6th semester ECE students, participated in TECHNIKA 2K25 – Akshaya Anveshana, held at Akshaya Institute of Technology, Tumkur, on 25th and 26th March 2025. They took part in the 24-hour InnoVenture Hackathon, where they showcased their innovative project titled 'IoT-Based Remote Patient Monitoring System', aimed at enhancing safety through automation. The team demonstrated excellent collaboration, creativity, and technical expertise, highlighting the department's commitment to practical learning and societal impact through technology

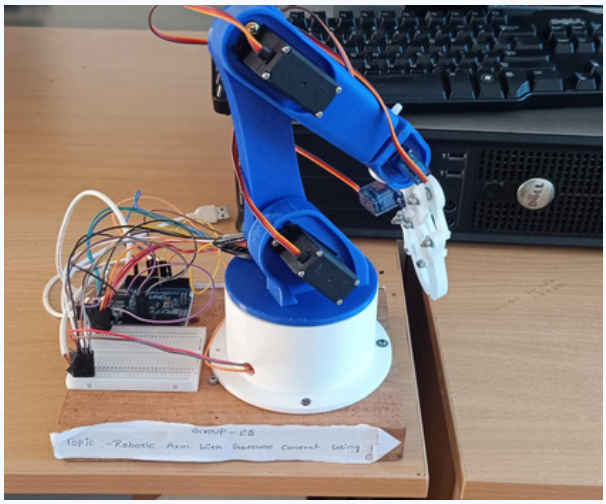


TEAM: SILICON SQUAD



Apeksha, Tejaswini, Pooja S, and Srushti, students of 6th semester ECE, participated in the 24-hour InnoVenture Hackathon at TECHNIKA 2K25 – Akshaya Anveshana, organized by Akshaya Institute of Technology, Tumkur. They presented an innovative project titled “Smart Irrigation System using Arduino - Agri_robot”, demonstrating strong technical skills, creativity, and effective teamwork in developing a practical, real-time automation solution for agricultural applications.

TEAM: INNOVATORS

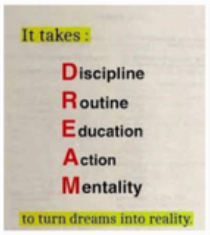


Chaithanya V, Vidyashree, Sumaiya Banu, and Nidhi K R, students of 6th semester ECE, participated in the 24-hour InnoVenture Hackathon at TECHNIKA 2K25 – Akshaya Anveshana, organized by Akshaya Institute of Technology, Tumkur. They presented an innovative project titled “Robotic Arm with Gesture Control using Arduino”, showcasing excellent technical skills, creativity, and collaborative effort in developing a real-time interactive automation solution.

Participation in Aryabhata Golden Jubilee Celebrations at Bengaluru

Space Soul Shwetha

This girl from VIII semester is ambitious in becoming an astronaut. It is a unique and wonderful job. It is hard work and people think that it is impossible for a woman to be an astronaut. But she want to do hard work. She want to do impossible jobs and change impossibilities to possibilities. She believes in

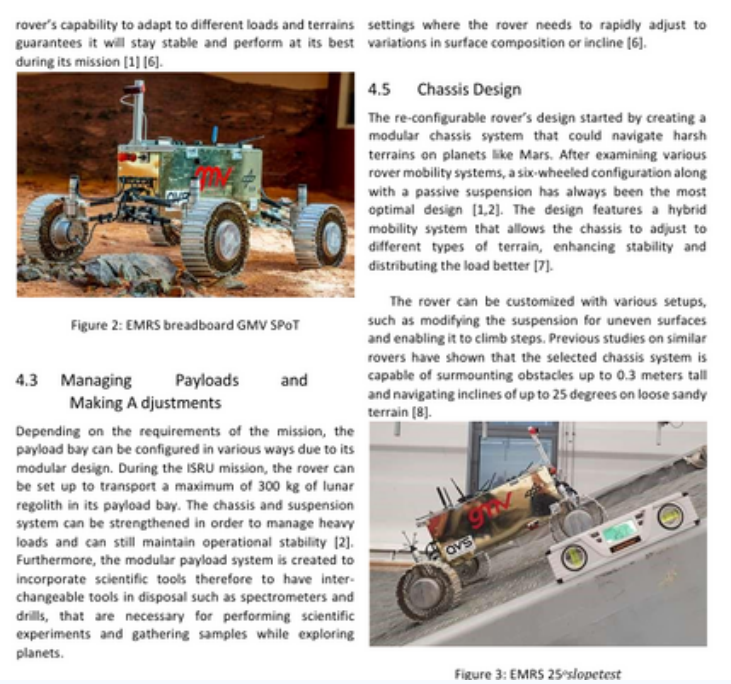


In this journey,

1. She participated in online training program on Space, Science and Technology Awareness Training (START) from 09th January to 29th January 2025, at total course for 19 hours and 30 minutes by Department of Space, ISRO, Government of India
2. She attended golden jubilee celebrations of Aryabhata launch, on April 19th 2025 at C V Vishveshwara Auditorium, Bengaluru

On April 19th, 2025, Shwetha participated in the Golden Jubilee Celebrations of the Aryabhata Satellite Launch, India's first satellite, at C.V. Vishveshwara Auditorium, Bengaluru. The event commemorated 50 years of India's historic space achievement and provided an inspiring platform for budding engineers and future scientists. Her presence at this prestigious gathering reflects her passion for space technology and her commitment to learning from the country's scientific legacy.

Innovative Research on Underwater Surveillance by Shwetha Bachchan Gains Recognition



rover's capability to adapt to different loads and terrains guarantees it will stay stable and perform at its best during its mission [1] [6].

Figure 2: EMRS breadboard GMV SPoT

4.3 Managing Payloads and Making A djustments

Depending on the requirements of the mission, the payload bay can be configured in various ways due to its modular design. During the ISRU mission, the rover can be set up to transport a maximum of 300 kg of lunar regolith in its payload bay. The chassis and suspension system can be strengthened in order to manage heavy loads and can still maintain operational stability [2]. Furthermore, the modular payload system is created to incorporate scientific tools therefore to have inter-changeable tools in disposal such as spectrometers and drills, that are necessary for performing scientific experiments and gathering samples while exploring planets.

settings where the rover needs to rapidly adjust to variations in surface composition or incline [6].

4.5 Chassis Design

The re-configurable rover's design started by creating a modular chassis system that could navigate harsh terrains on planets like Mars. After examining various rover mobility systems, a six-wheeled configuration along with a passive suspension has always been the most optimal design [1,2]. The design features a hybrid mobility system that allows the chassis to adjust to different types of terrain, enhancing stability and distributing the load better [7].

The rover can be customized with various setups, such as modifying the suspension for uneven surfaces and enabling it to climb steps. Previous studies on similar rovers have shown that the selected chassis system is capable of surmounting obstacles up to 0.3 meters tall and navigating inclines of up to 25 degrees on loose sandy terrain [8].

Figure 3: EMRS 25°slopetest

Shwetha Bachchan, a distinguished student from the Electronics and Communication Engineering (ECE) department, co-authored a research paper titled "Design and Development of Underwater Surveillance System for Monitoring Water Parameters." Presented at the International Astronautical Congress (IAC), the paper explores a novel system for real-time monitoring of underwater environments using advanced sensors and wireless communication. This groundbreaking work highlights the importance of sustainable aquatic monitoring and showcases the research capabilities of our students on an international platform.

Final-Year ECE Student Shwetha Bachchan Earns ISRO Certificate in Space Science Awareness

Shwetha, a dedicated and aspiring space enthusiast from the 8th semester ECE Department, successfully completed the Space Science and Technology Awareness Training (START) program conducted by the Department of Space, ISRO, Government of India. The online course was held from 9th to 29th January 2025, totaling 19 hours and 30 minutes of intensive learning. The program provided her with fundamental insights into India's space missions, satellite technology, and the evolving role of electronics in space exploration.

भारत सरकार/GOVERNMENT OF INDIA
अंतरिक्ष विभाग/DEPARTMENT OF SPACE
भारतीय अंतरिक्ष अनुसंधान संगठन /INDIAN SPACE RESEARCH ORGANISATION (ISRO)

CERTIFICATE OF MERIT/योग्यता प्रमाण पत्र

नामांकन सं./ Enrolment No.: 20251552666762

SPACE SCIENCE AND TECHNOLOGY AWARENESS TRAINING (START)

यह प्रमाणपत्र
MS. SHWETHA BACHCHAN
(पिल्लई एचओसी कॉलेज ऑफ इंजीनियरिंग एंड टेक्नोलॉजी)
को " अंतरिक्ष विज्ञान और प्रौद्योगिकी का अवलोकन "
में ऑनलाइन प्रशिक्षण कार्यक्रम में भाग लेने पर प्रदान किया जाता है।
इस ऑनलाइन प्रशिक्षण कार्यक्रम का आयोजन 2025-01-09 से 2025-01-29 (कुल प्रशिक्षण कार्यक्रम की अवधि = 19 घंटे 30 मिनट) के दौरान किया गया।

THIS CERTIFICATE IS
AWARDED TO
MS. SHWETHA BACHCHAN
(*Pillai HOC College of Engineering and Technology*)
ON HAVING PARTICIPATED IN THE ONLINE TRAINING PROGRAMME ON
"Space Science and Technology awareness training (start)"
THIS ONLINE TRAINING PROGRAMME WAS CONDUCTED DURING **09 January 2025 to 29 January 2025** (Total course duration = 19 hours and 30 minutes).

EXAM GRADE: A+
ATTENDANCE: 100 %

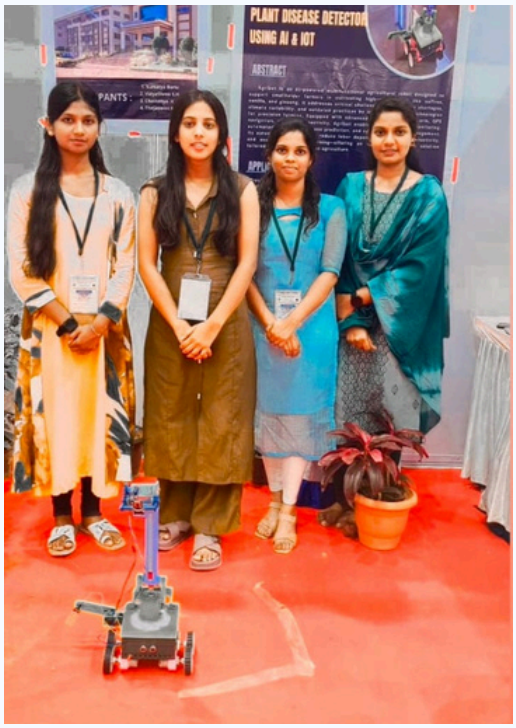
दिनांक/Date: 18-02-2025
स्थान/Place: ISRO HQ, Bengaluru
UID-

समन्वयक/ Coordinator
इसरो स्टार्ट नोडल सेंटर/ ISRO START Nodal Center

निदेशक/ Director
एसपीओ, इसरो मुख्यालय/ SPO, ISRO HQ Bengaluru

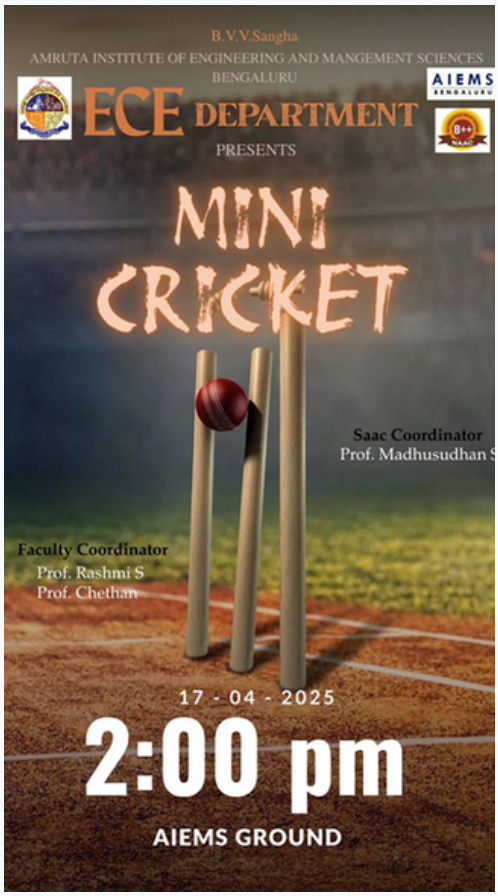
निदेशक/ Director
आई.आई.आर.एस, देहरादून/ IIRS, Dehradun

6th Semester ECE Students Present AGRI BOT Project at 9th National Techno-Exhibition 2025



Chaithanya V, Sumaiya Banu, Vidyashree, and Tejaswini, students of the 6th semester ECE Department, participated in the 9th National Techno-Exhibition 2025 held at Dr. Ambedkar Institute of Technology, Bengaluru, on 13th April 2025. They presented their innovative project titled "AGRI BOT", which focused on advancing agricultural automation using embedded systems and smart technologies. The project was well-received for its practical relevance and creativity, reflecting the students' strong technical skills and commitment to problem-solving through engineering solutions.

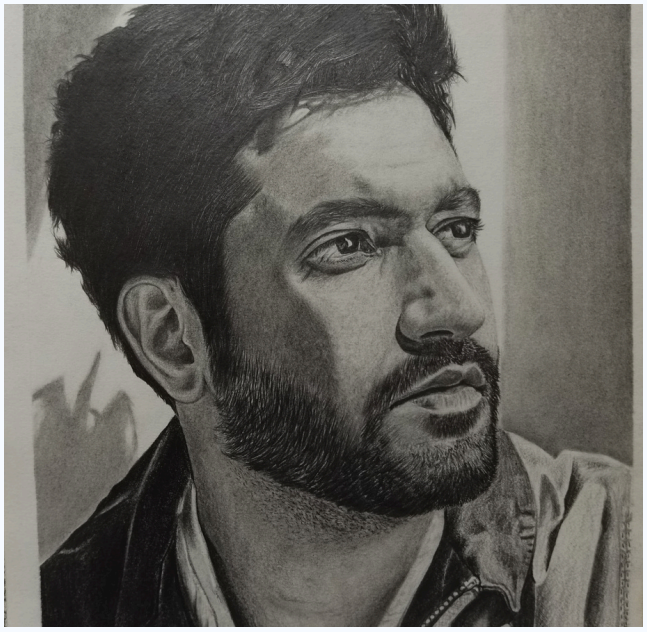
Mini Cricket Event Organized by IV Semester Students

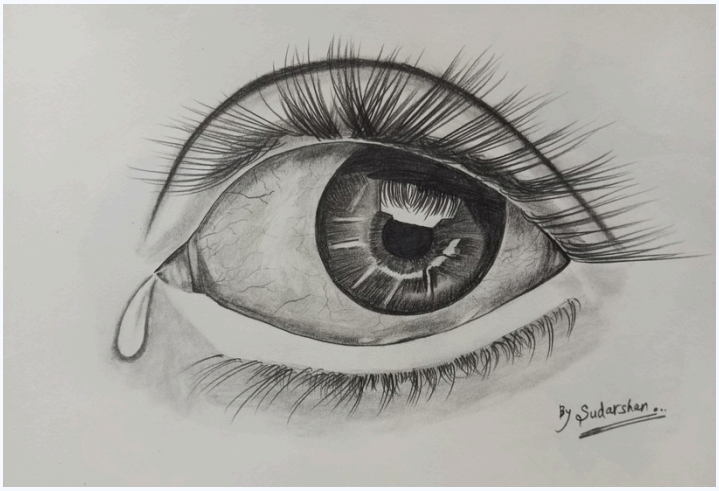


IV semester students of the ECE Department organized a Mini Cricket Event at the campus ground, fostering team spirit, coordination, and recreational engagement among peers. The event witnessed enthusiastic participation and served as a refreshing break from academics, promoting a healthy balance between curricular and extracurricular activities.

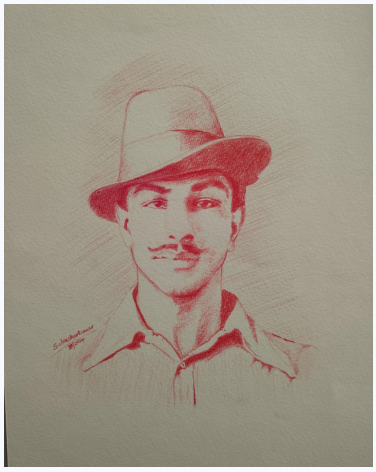
Art in Every Stroke:
Sudarshan's Captivating Sketches Leave a Mark

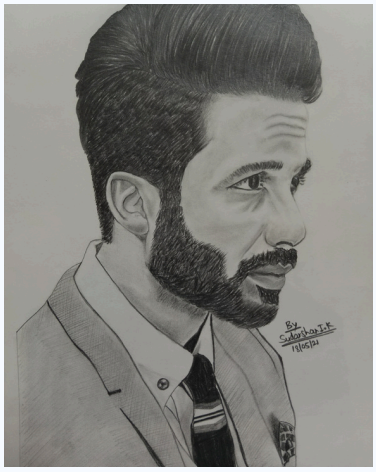
Sudarshan, a talented student from 4th semester ECE, showcased his exceptional artistic skills through stunning pen and pencil sketch art. With a keen eye for detail and remarkable precision, his sketches bring life to paper, reflecting creativity that goes beyond the boundaries of engineering. His work stands as a perfect blend of technical discipline and artistic expression, inspiring peers across the department.

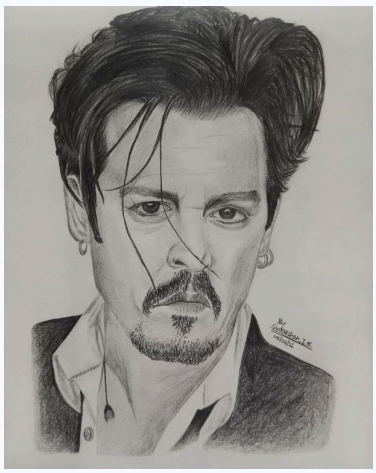


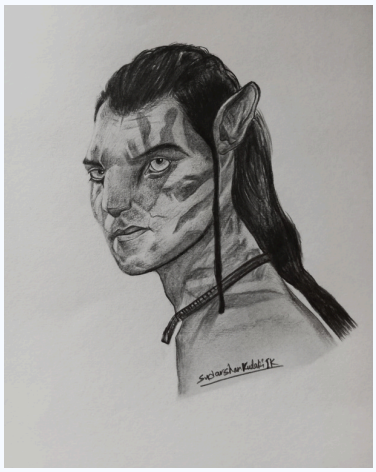


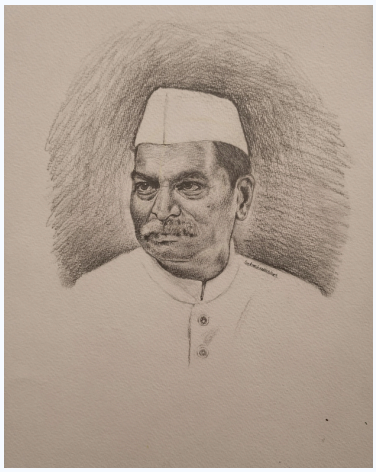
Shades of Precision: Sudarshan's Sketch Gallery



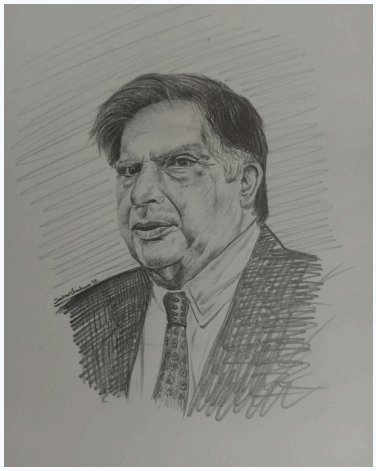


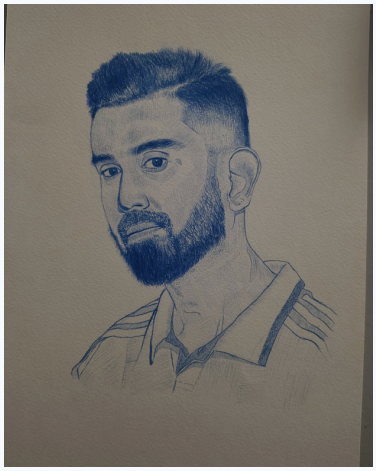


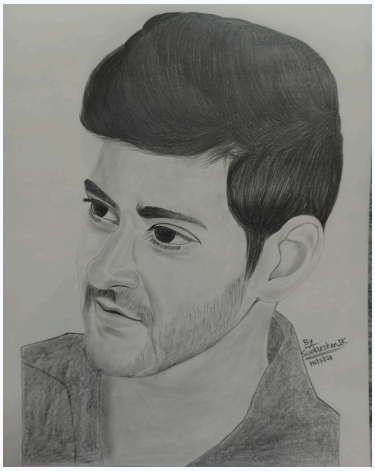


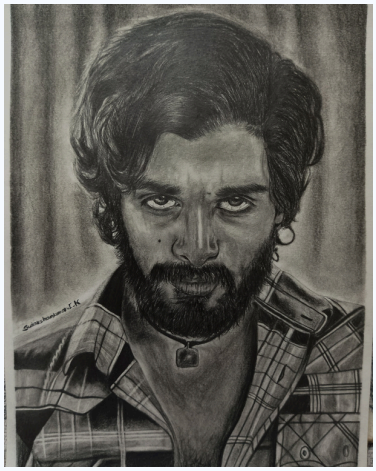


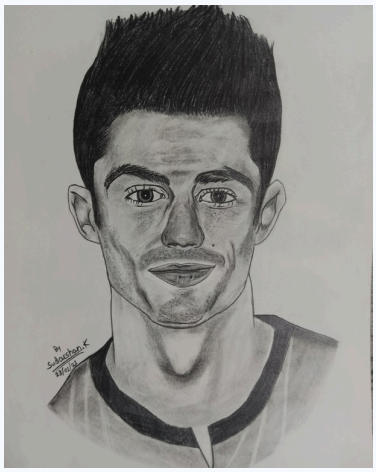
Shades of Precision: Sudarshan's Sketch Gallery

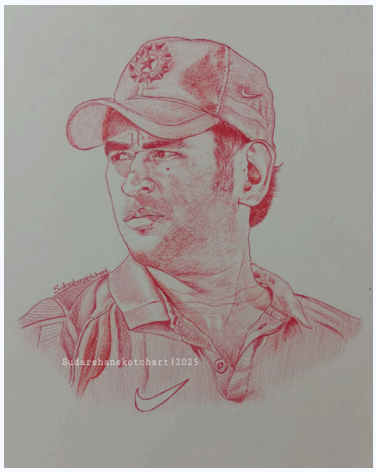












ECE Students Participate in Toyota's 2nd Edition Bidadi Half Marathon for Safety and Sustainability

Students from the ECE Department actively participated in the 2nd Edition of the Bidadi Half Marathon, organized by Toyota on 23rd March 2025 at Jollywood Studios, Bidadi. The event promoted the themes of safety and sustainability, encouraging community involvement through fitness. Participants had the opportunity to compete in various race categories, including 21k Half Marathon, 10k, 5k, and 3k runs. The event provided a platform for students to engage beyond academics, fostering a spirit of health, social responsibility, and environmental awareness. Their enthusiastic involvement added to the vibrant atmosphere and reflected the department's commitment to holistic student development.

Designed & Edited By-
Anurag P Shirodkar
1AR22EC009
anuragshirodkar099@gmail.com

Guided by-
Prof. Rashmi S
Assistant Professor, Dept. of ECE
B.E., M.Tech