

Centenary Celebrated Sharnbasveshwar Vidya Vardhaka Sangha's



ಶರಣಬಸವ
SHARNBASVA



ವಿಶ್ವವಿದ್ಯಾಲಯ
UNIVERSITY



A State Private University approved by Govt. of Karnataka vide Notification No. ED 144 URC 2016 dated 29-07-2017
Recognised by UGC under Section 2f vide No. F.8-29/2017 (CPP-I/PU), dated 20-12-2017 & AICTE, CoA, PCI New Delhi

**FACULTY OF ENGINEERING AND TECHNOLOGY
(EXCLUSIVELY FOR WOMEN)**

**DEPARTMENT OF ELECTRONICS AND
COMMUNICATION ENGINEERING**

DEPARTMENT MAGAZINE 2024-25



**GNYANA
ECE INNOVATIONS**

Poojya Dr. Sharnbaswappa Appa
Chancellor,
Sharnbasva University, Kalaburagi



Poojya Dr. Sharnbaswappa Appa

The field of Electronics and Communication Engineering is at the heart of the technological revolution that continues to shape the future of industries worldwide. It is inspiring to see how your department is contributing to the advancement of knowledge, fostering creativity, and preparing the next generation of leaders in this exciting domain.

Through your research, projects, and collaborations, you are not only creating a rich academic environment but also making meaningful contributions to society. I am particularly proud of how the department continues to push boundaries in various areas such as signal processing, telecommunications, embedded systems, and more.

I encourage all of you students, faculty, and staff to continue embracing innovation, teamwork, and a commitment to excellence. Let this magazine be a reflection of the bright future you are all helping to build. May it inspire new ideas, foster intellectual curiosity, and showcase the dynamic talent within your department. I convey my best wishes for the success of GNYANA ECE Innovations.

Poojya Matoshree Dr. Dakshayini S. Appa
Chairperson,
Sharnbasveshwar Vidya
Vardhaka Sangha



Poojya Matoshree Dr. Dakshayini S. Appa

Innovation requires passionate explorers to propel transformation at the workplace. With an ever-changing global scenario, the key to success is responding to the complex and rapidly changing in the field of electronics.

Electronics and Communication Engineering is a field that is constantly evolving, with emerging technologies shaping the way we communicate, interact, and experience the world. As we witness groundbreaking advancements in fields like AI, IOT, 5G, and beyond, it is crucial for us to not only embrace these changes but also to lead them. The future of technology depends on the passion, creativity, and dedication of the next generation of engineers, and it is inspiring to see how our department continues to contribute to this vision.

Wishing you all continued success and fulfillment in your academic and professional journeys.

Dr. Lakshmi Patil
Dean
Sharnbasva University



As technology continues to advance at an unprecedented rate, the role of Electronics and Communication Engineers in shaping the future becomes increasingly vital. The department's unwavering commitment to excellence in teaching, research, and industry collaboration provides our students with the tools and knowledge needed to thrive in this fast-paced, ever-evolving sector.

This magazine serves as a wonderful reflection of the hard work and enthusiasm of our students and faculty. It provides a platform for sharing ideas, projects, and research that contribute to the global conversation on emerging technologies. It is inspiring to see how our department continues to produce future leaders who will drive innovations in fields such as telecommunications, embedded systems, signal processing, and beyond.

I look forward to witnessing your continued success and the remarkable impact you will have in the world of Electronics and Communication Engineering.

Dr. Nagaveni K
HOD, ECE, FETW
Sharnbasva University



Electronics is a rapidly evolving field, shaping the future of technology and innovation. Our students and faculty continuously push boundaries through research and hands-on projects. This magazine serves as a platform to showcase their creativity, knowledge, and achievements. With advancements in AI, IOT, and communication systems, the scope of electronics is limitless. We encourage students to embrace curiosity, experiment, and apply their learning to real-world problems. Our department remains committed to fostering an environment of excellence and collaboration. I sincerely appreciate the efforts of the editorial team and all contributors for their dedication.

Your hard work and passion make this magazine a valuable source of inspiration and knowledge. May this edition ignite new ideas and motivate you to excel in your academic journey. Let us continue to innovate and contribute to the ever-evolving world of technology.

VISION & MISSION



**FACULTY OF ENGINEERING & TECHNOLOGY
(EXCLUSIVELY FOR WOMEN)**

**DEPARTMENT OF ELECTRONICS & COMMUNICATION
ENGINEERING**

VISION

To nurture women professionals through quality education, ethical values and expertise in electronics and communication engineering skills, enabling them to make contribution to society.

MISSION

- **Mission 1:** To provide a competent academic foundation in electronics and communication engineering, through comprehensive curricula.
- **Mission 2:** To promote research, innovation, and industry relevant skills enabling students to develop solutions for real-world problems.
- **Mission 3:** To create a supportive learning environment that inspires women to pursue entrepreneurship and make meaningful contributions to society.
- **Mission 4:** To foster ethical values in women professionals, to address global challenges with integrity and responsibility.



Electronics and Communications Engineering

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Events



Rural Outreach Program: Bright Futures – Empowering Children beyond Labor”

Organized by: Department of Electronics and Communication Engineering

Date: 9th July 2024

Venue: Government Primary and Higher Primary School, Mugnoor, Taluk Jewargi, Kalaburagi, Karnataka

Mode: Community Outreach

Objective:

To engage with rural communities and schools by promoting awareness about technology, education, and social responsibility, thereby bridging the urban-rural knowledge gap.

Chief Guest / Key Resource Person:

- Principal Mr. Shrishail Biradar, Government Primary and Higher Primary School, Mugnoor

Program Highlights:

- Interactive sessions with school students on basic science and technology
- Demonstrations and activities conducted by ECE students
- Distribution of educational materials
- Discussions with teachers on the importance of digital literacy and higher education

Audience: School students (Grades 1–8), school staff, and local community members

Total Beneficiaries: [Insert Number if available]

Student Feedback:

ECE students expressed that the program was both impactful and fulfilling. It provided them with an opportunity to contribute meaningfully to society and gain a deeper understanding of the role engineers can play in rural development.

Faculty Coordinator: Vanita K

Student Coordinators: Nisha

Outcome:

The Rural Outreach Program successfully fostered a sense of community engagement and educational empowerment. It reinforced the value of practical learning and social responsibility among engineering students.



One day Seminar On “Overview of Geo-Spatial Image Analysis using Satellite Images”

Date: 11/07/2024

Time: 10:00 AM – 05:00 PM

Place: ECE Seminar Hall

Number of Students Attended: 120

Resource Person: Dr. Rubina ()

Activity Incharge : Prof. Shivganga Patil, Dr. Nagaveni K, Dr. Asharani Patil

Description of Activity

The seminar provided an overview of Geo-Spatial Image Analysis using Satellite Images, covering its principles, techniques, and applications. Participants gained insights into how valuable information is extracted from satellite images through various processes.

Key topics covered during the session included image acquisition, image processing, and analytical techniques. The invited experts shared real-world case studies and demonstrated hands-on applications of relevant software tools. Special emphasis was placed on how geo-spatial image analysis is applied in fields such as land use and land cover mapping, natural resource management, and disaster response.

The seminar also served as a knowledge-sharing platform where professionals, researchers, and students interacted through lectures, demonstrations, and engaging discussions. This event greatly benefited students by enriching their understanding of satellite image processing and its vast applications.



Regional Hackathon

Organized by: Guru Nanak Jhira Entrepreneurship Research & Business Incubation Foundation (GN JERB), Bidar in collaboration with Sharnbasva University, Kalaburagi

Date: 1st August 2024

Venue: Faculty of Engineering and Technology (Exclusively for Women), Sharnbasva University, Kalaburagi

Mode: In-Person Innovation Event

Objective: To foster innovation and problem-solving among students by providing a platform for idea development, interdisciplinary collaboration, and exposure to incubation and funding opportunities.

Chief Guest:

Shri. Jagan Karthick, Head, Siddaganga Incubation Foundation, SIT Tumakuru

Special Guests & Dignitaries:

- Mr. Rakesh Marturkar – Incubation Manager, GN JERB Foundation, Bidar
- Mr. Sunil Vibhute – Founder & CEO, Linuscart IT Solutions Pvt. Ltd.
- Mr. Siddram Hebbal – Co-Founder, KEOCH IT Solutions Pvt. Ltd.
- Dr. Lakshmi Patil Maka – Dean, Sharnbasva University
- Dr. T.V. Sivanandan – Dept. of Journalism and Mass Communication, Sharnbasva University

Highlights:

- Mr. Marturkar emphasized originality, scalability, and product completion as key criteria for funding proposals in student-led innovation.
- Shri. Jagan Karthick briefed participants on incubation, funding, and networking opportunities.
- Students pitched 86 innovative ideas across disciplines.
- Mentorship and real-time feedback provided during interactive sessions.
- Strong focus on solving real-world and community-based problems through teamwork.
-

Audience: 170 students and 50 staff members from various institutions and departments

Student Feedback: The hackathon provided an energizing and empowering experience, enabling participants to brainstorm, collaborate, and refine their ideas with expert input. It significantly boosted awareness about incubation and funding ecosystems.

Activity In-Charges: Dr. Basanthi Ghanti, Prof. Laxmi Patil



Aligning with UN-SDGs and Exploring Emerging Areas – Industrial Visit to Karnataka Cotton Industry

Organized by: Department of Electronics and Communication Engineering

Date: 5th January 2025

Time: 10:00 AM to 4:00 PM

Mode: Curricular Industrial Visit

Objective: To provide students with real-world exposure to the cotton industry's technological advancements, sustainability practices, and how modern innovations can be aligned with the United Nations Sustainable Development Goals (UN-SDGs).

Program/Course/Class:

B.Tech. 5th Semester, Department of ECE

Topics and Focus Areas:

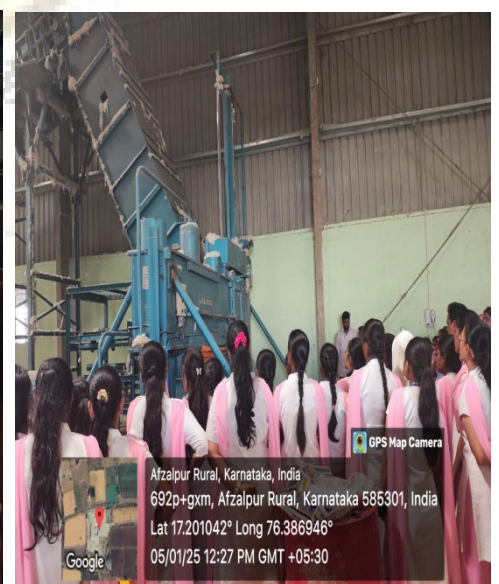
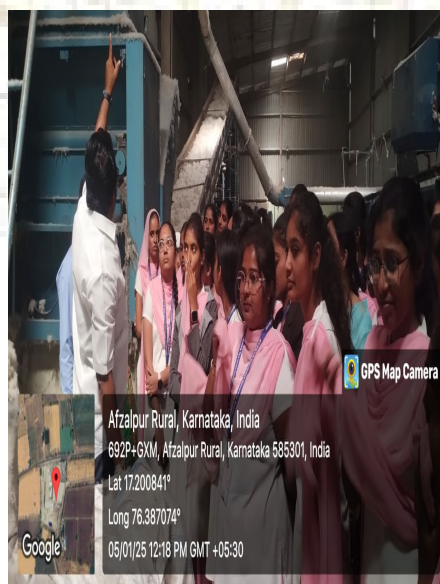
- Role of the Karnataka Cotton Industry in the state's economy and employment
- Technology-driven solutions for increasing cotton yield and reducing costs
- Development and implementation of smart ginning machines for improved cotton quality
- Integration of blockchain for transparency and traceability in cotton supply chains
- Usage of renewable energy in cotton processing units to reduce carbon emissions
- Design of eco-friendly and biodegradable cotton-based products
- Application of AI, IoT, and automation in farming, spinning, weaving, and ginning

Audience: 78 B.Tech. ECE students, 5 Faculty members

Student Feedback: Students found the visit insightful and inspiring. They appreciated the exposure to sustainable technologies, modern automation in the textile sector, and the integration of smart tools for enhanced agricultural and industrial practices.

Event Outcome: The visit deepened students' understanding of how engineering and technology contribute to sustainable development in traditional industries. They were introduced to practical applications of AI, IoT, block chain, and automation, reinforcing academic concepts with real-world relevance.

Activity In-Charges: Dr. Anuradha Patil, Prof. Shobhana, Prof. Geeta M



Career Options and Necessary Tools & Techniques in AI

Organized by: Department of Electronics and Communication Engineering

Date: 17th January 2025

Mode: Expert Seminar / Awareness Session

Objective: To introduce students to diverse career opportunities in the field of Artificial Intelligence (AI) and to familiarize them with the essential tools, techniques, and skills required to thrive in the AI industry.

Resource Person: Dr. Basanti Ghanti, Professor, FETW, Sharnbasva University

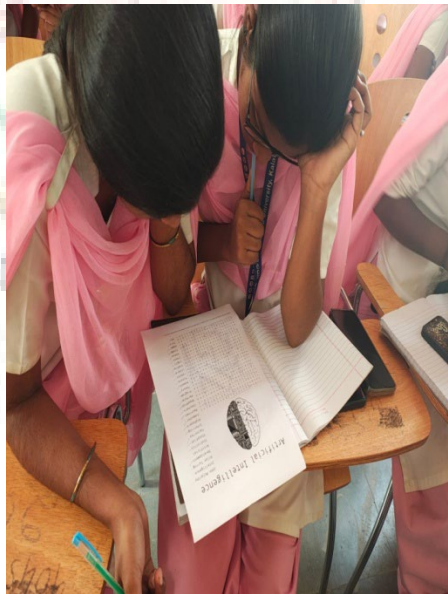
Topics Covered:

- Overview and evolution of Artificial Intelligence
- In-demand career roles in AI, including:
 - Machine Learning Engineer
 - Data Scientist
 - AI Research Scientist
 - Natural Language Processing (NLP) Engineer
 - Computer Vision Engineer
- Tools and techniques essential for AI development
- Key skills needed to succeed in AI careers
- Future trends and staying relevant in the AI ecosystem

Audience: 60 students from B.Tech. 5th Semester (ECE), accompanied by 4 faculty members

Student Feedback: Students found the seminar enlightening and highly informative. It clarified career directions in AI and encouraged them to explore various subfields with a clear understanding of industry expectations and tools.

Faculty Coordinator: Mrs. Shobhana



Industrial Visit to DRDO, Hyderabad

Organized by: Department of Electronics and Communication Engineering

Date: 23rd January 2025

Mode: Industrial Visit / Expert Interaction

Objective:

To expose students to real-world applications of defense technologies, specifically in missile systems, embedded electronics, and aerospace innovations developed by the Defence Research and Development Organization (DRDO), Hyderabad.

Resource Persons:

- Mr. M. Rajappa, “Actuation System” DCA, RCI, DRDO, Hyderabad
- Mr. Mallikarjun, Scientist ‘F’, DCA, RCI, DRDO, Hyderabad
- Mr. P. Narasimhulu, Software Specialist, DRDO, Hyderabad

Topics Covered:

- Structure and functionality of missile systems (Agni, Akash, Astra, Trishul)
- Embedded software and electronics in defense systems
- Mechanical and actuation systems in missile design
- Applications of sensors, radars, and pneumatic systems in defense
- Interaction and Q&A on cutting-edge defense technologies

Audience:

47 B.Tech. 5th Semester ECE students, accompanied by 2 faculty members

Student Feedback:

Students expressed great interest and enthusiasm about the depth of knowledge shared. The practical exposure to advanced defense systems significantly enhanced their technical perspective and curiosity in defense and embedded systems.

Faculty Coordinators:

Prof. Shobhana, Prof. Laxmi Patil



Entrepreneurship Awareness Programme

Organized by: Br. Micro, Small & Medium Enterprises Development & Facilitation Office (MSME-DFO), Kalaburagi, in Association with Sharnbasva University, Kalaburagi.

Date: 24th January 2025

Time: 11:30 AM to 2:00 PM

Venue: Seminar Hall, Department of E&CE, Faculty of Engineering and Technology (Exclusively for Women), Sharnbasva University, Kalaburagi

Mode: Awareness Seminar / Co-curricular Activity

Objective: To foster entrepreneurial thinking among students by providing insights into startup ideation, financial support systems, and the overall ecosystem of Micro, Small, and Medium Enterprises (MSMEs).

Chief Guest:

- Smt. Surekha, Joint Director, DIC, Kalaburagi

Guests of Honour:

- Shri. Rahul Mahagaonkar, Managing Partner, SKS Global Imports and Exports
- Shri. Gaurav Singha, Chief Manager, Central Bank of India, Kalaburagi

Important Dignitaries:

- Shri. B. S. Javalgi, Director (In-charge), MSME DFO, Hubli
- Smt. A. Subha Lakshmi, Assistant Director (In-charge), MSME Kalaburagi
- Shri. Akash Toanasalli, Founder & CEO, Dgignare Technologies LLP
- Dr. S. H. Honnalli, Registrar (Evaluation), Sharnbasva University
- Dr. Lakshmi Patil, Dean and Convener

Highlights of the Sessions:

- **Shri. Rahul Mahagaonkar** elaborated on startup ideation and global trade insights, especially in the import-export domain.
- **Shri. Gaurav Singha** detailed the various banking and government financial schemes available for MSME entrepreneurs.
- **Presidential address** by Shri. B. S. Javalgi emphasized the need for nurturing entrepreneurial skills among students and innovators.

Audience: More than 70 students and over 30 staff members participated.

Student Feedback: The seminar was well-received by students, who appreciated the clarity and practical relevance of the topics. The sessions helped them understand entrepreneurial processes, available funding resources, and the path to converting ideas into businesses.

Faculty Coordinators: Dr. Basanti Ghanti, Prof. Laxmi Patil



Career Opportunities after B.Tech

Organized by: Department of Electronics and Communication Engineering

Date: 24th April 2025

Mode: Expert Talk / Career Guidance Session

Objective: To provide students with insights into diverse career paths after completing their B.Tech, including higher education, competitive exams, core and IT industry roles, and emerging technologies.

Resource Person:

- Mr. Pabba Ramesh, Faculty, ACE Engineering Academy, Hyderabad

Topics Covered:

- Career prospects in core engineering domains (ECE, Civil, Mechanical, Electrical)
- IT sector roles: Software Development, System Analysis
- Competitive exams: GATE, IES, PSUs for government job opportunities
- Higher education options: M.Tech, MBA, MS abroad
- Opportunities in AI, Data Science, and Cyber security
- Academic and research-based career paths
- Entrepreneurship and startup ecosystem

Audience:

110 students from B.Tech. 6th Semester (ECE), accompanied by 2 faculty members

Student Feedback:

Students appreciated the session's depth and clarity. It helped them explore multiple career trajectories and understand how to prepare for each. The practical advice and motivational tone of the speaker were particularly well received.

Faculty Coordinators:

Mrs. Shobhana, Mrs. Laxmi Patil



Stress Management

Organized by: Department of Electronics and Communication Engineering

Date: 27th April 2025

Mode: Expert Wellness Session

Objective:

To equip students with effective tools and strategies for managing academic and personal stress, promoting mental wellness and productivity.

Resource Person:

- Dr. Jayashree Reddy, Principal, Smt. Mahadevamma B. Patil Degree College, Chittapur, Kalaburagi

Topics Covered:

- Common sources of stress among engineering students
- Importance of early recognition of stress symptoms
- Mindfulness, meditation, and breathing techniques
- Time management strategies for academic success
- Balancing academics with personal life
- The role of sleep, nutrition, and physical activity in stress management
- Interactive discussion and personal experience sharing
- Group relaxation and wellness exercises

Audience:

52 students from B.Tech. 4th Semester (ECE), accompanied by 2 faculty members

Student Feedback:

Students found the session to be practical, engaging, and emotionally supportive. The interactive nature encouraged openness, and participants reported feeling more motivated and mentally equipped to handle pressure. The relaxation activity was especially well-received.

Faculty Coordinators:

Mrs. Shobhana, Mrs. Laxmi Patil



Civil Service as a Career Option

Organized by: Department of Electronics and Communication Engineering

Date: 6th May 2025

Mode: Expert Talk / Motivational Session

Objective:

To inform and motivate students about the prestigious career opportunities in Indian Civil Services and guide them on how to prepare effectively for competitive exams like the UPSC.

Resource Person:

- Mr. Anil Kumar, Founder and Managing Director, CREDENCE IAS, Bengaluru

Topics Covered:

- Importance and impact of a career in Indian Civil Services
- Structure of the UPSC Civil Services Examination: Prelims, Mains, and Interview
- Role of civil servants in governance, policy-making, and public welfare
- Key preparation strategies and required mindset for success
- Holistic development: academic readiness, discipline, and positive attitude
- Inspirational success stories of IAS and IPS officers
- Addressing myths and realities of civil services

Audience:

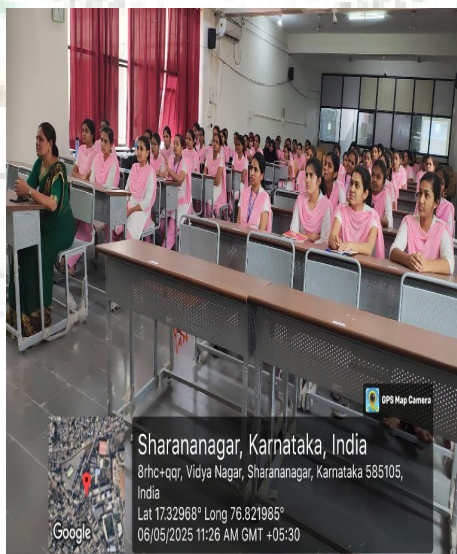
84 students from B.Tech. 6th Semester (ECE), accompanied by 2 faculty members

Student Feedback:

The session was highly motivational and informative. Students gained clarity about the examination structure, career prospects, and preparation roadmap. Mr. Kumar's real-life examples and practical insights inspired several students to begin their UPSC preparation journey.

Faculty Coordinators:

Mrs. Shobhana, Mrs. Laxmi Patil



Mock Placement Drive

Organized by: Department of Electronics and Communication Engineering

Date: 8th July 2025

Mode: On-campus Training Activity

Objective: To simulate the campus recruitment process and prepare 3rd-year ECE students for real placement drives by enhancing their aptitude, communication, and interview skills.

Coordinated by:

- Placement and Training Cell
- Faculty members and student volunteers from Dept. of ECE

Activities Planned:

- **Aptitude Test:** To assess logical reasoning, quantitative ability, and verbal skills
- **Group Discussion:** To develop communication, leadership, and team dynamics
- **Personal Interviews (HR and Technical):** To simulate real interview environments and provide constructive feedback
- **Feedback and Guidance:** Personalized suggestions to improve performance and readiness

Audience:

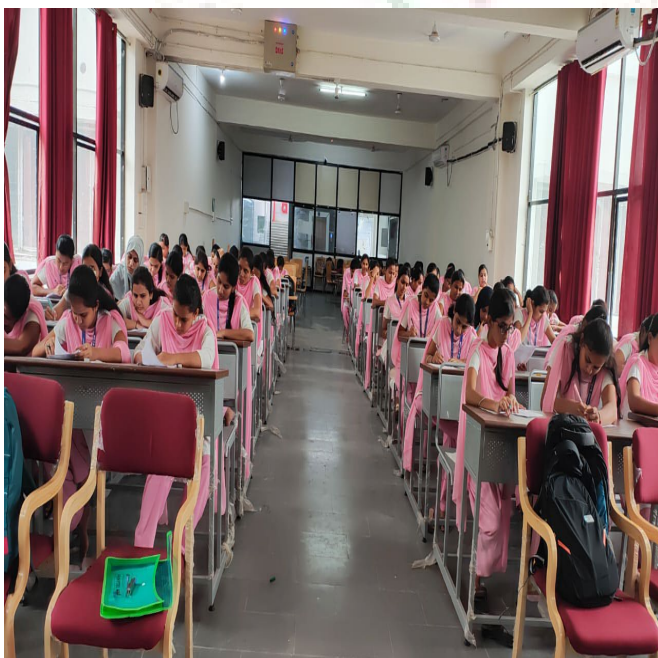
B.Tech. 3rd Year (ECE) students

Expected Outcome:

The mock placement drive aims to build confidence among students, enhance their understanding of recruitment expectations, and help them identify areas for improvement. Through guided sessions and feedback, students will be better prepared for actual placement opportunities.

Faculty Coordinator:

Mrs. Shobhana, Placement Coordinator, Dept. of ECE





Achievement



Dr.Vanita ,

Assistant Professor, ECE, FETW, SUK.

We are proud to share that **Dr. Vanita** has been awarded the **Doctor of Philosophy (Ph.D.)** degree by **Visvesvaraya Technological University (VTU)** for her outstanding research work titled "**Optimization of Energy and Spectral Efficiency using NOMA Techniques for 5G Wireless Communications**"

Faculties served as reviewer, session chair, external BOS and BOE details

Mrs. Shivganga Patil	External Member BOE	PDA College of Engineering, Kalaburagi
Dr. Shilpa Shrigiri	Reviewer	International Conference on intelligent systems and computational networks-2025
		International Conference on 6G Communications Networking and Signal Processing-2024
		International Conference on Data Science and Network Security-2024
Dr. Basanti Ghanti	Session Chair	National conference on electrical, electronics and intelligent computing technologies (NCEEICT) May 2025
Dr. Sujata K	Talk	Awareness on Patent 28/02/2025
Dr. Asharani Patil	Session Chair	3 rd IEEE International Conference on Data Science and Information System (ICDSIS-2025)
	Awards	Outstanding WiE Professional Award 2024
	Reviewer	International Conference on Electrical, Computer and Energy Technologies- 2024
		International Conference on Data Science and Network Security-2024
		International Conference on Intelligent Computing and Knowledge Extraction ICICKE-2025 (6-7 JUNE)
		IEEE Bangalore Humanitarian Technology Conference- 25 th April 2025
		International Conference on Sustainable

		Computing and Intelligent Systems-2024
		IEEE International Conference on Computational Systems and Information Technology for Sustainable Solutions (CSITSS)2024 International Conference on Networking , Embedded and wireless systems -2024

Details of Publications in Conferences during assessment period

	Title	Author	Journal / Conference	Published Year
1	Fair Ration Distribution Using Smart Card	Dr. Asharani Patil Ms. Jyoti Chavan Ms. Pallavi Patil Ms. Pallavi Ghorwade Ms. Pooja		
2	Pre-Paid Electric Energy Meter with Theft Alert	Mrs. Ambika Patil Ms. Nida Muskan Bangi Ms. Padmashree Sajjan Ms. Nayana Ms. Bhavana Naste	Journal of Research and Advancement in Electrical Engineering Vol 8, I 3	Sept-2025
3	Flowmate Real Time Drip Monitoring and Automatic Refill System	Dr. Anuradha Patil Ms. Syeda Benazir Khan Ms. Uzba Ms. Shweta Patil Ms. Sinduja Patil	Journal of Research and Advancement in Electrical Engineering Vol 8, I 3	Sept-2025
4	Ecosort IoT Based segregation and monitoring system	Dr. Anuradha Patil Ms. Syeda Benazir Khan Ms. Uzba	Journal of Research and Advancement in Electrical Engineering Vol 8, I 3	Sept-2025

		Ms. Shweta Patil Ms. Sinduja Patil		
5	Agricultural Crop Recommendation System Using IoT and ML	Mrs. Shruti H Ms. Sameena F Ms. Soumya Shinde Ms. Veena V	International Journal For Reseaech in applied Science and Engineering Technology V13 I5	May 2025
6	A vision based smart medical robot for preliminary monitoring without physical interaction	Ms. Shweta Biradar Ms. Swati Ms. Varsha Pattankar Ms. Vaishnavi Math Ms. Sadana Deshmukh	International Research Journal of Engineering and Tevhnology (IRJET)	June 2025
7	Multifunctional Agricultural Robot	Mrs. Neelambika Ms. Sakshi Chavan Ms. Shardha Ms. Vaibhavi Ms. Bhavana	Journal of Scientific Research and Technology	July 2025
8	Portable Ventilator using Ambu Bag for Patient care and Mobility	Dr. Vanita k Ms. Ratnashree Ms. Shweta Ms. Vaishnavi	Journal of Scientific Research and Technology	June 2025
9	Comparative Study of Performance of Arduino UNO, Raspberry Pi Pico and Node MCU (ESP8266) for Developing Real TimeRemote and Proximity Control Device in Industry	Dr. Basanti Ghanti Ms. Chitra C. B Ms. Amulya E B Ms. Bhagyashree S.B		Dec 2025
4	A survey on Developments in Quantum Communication	Dr. Basanti Ghanti Ms. Shreya Venkatesh	Journal of Control Systems and its Recent	Dec 2025

	Networks	Ms. Vaishnavi Shendre Ms. Vajreshwari	Developments	
10	Automated IOT Sorting Solution with MQTT Connectivity and MYSQL Backend	Dr. Basanti Ghanti Ms. Shakti Ms. Roopa Ms. Shivani Indi Ms. Sharanprabha	Journal of Control Systems and its Recent Developments	May 2025
11	Arduino Obstacle Avoiding Voice Control and Bluetooth Control Robot Car	Dr. Anuradha Patil Ms. Arti Halli Ms. Bhagyashree. Allagi Ms. Laxmi Patil Ms. Jyoti Biradar	Research and Applications: Embedded System	May 2025
12	LORA Based Agricultural Monitoring System	Mrs. Shobana Ms. Vijaylaxmi Ms. Sneha Ms. Vismaya Ms. Soujanya	Journal of VLSI Design and Its Advancement Vol 8. 12	May 2025

Details of papers published in national/international journals

Sl. No	Paper title	Name of the faculty	Journal	Year of publication	Link to paper	Indexing
1	Multi Model facial expression recognition using improved Coati Optimization based exponential linear gated recurrent unit with layer normalization	Mrs. Laxmi patil and Dr. Lakshmi Patil	Journal of Computational Analysis and Applications	Aug 2024		Scopus
2	Classification of Diabetic Retinopathy Using Optimization Driven Automated Self-Feature Selected Light Gradient Boosting Mechanism	Mrs. Shobana and Dr. Lakshmi Patil	Sensing and Imaging	March-2025	https://rdcu.be/edlv g	Springer
3	Real time implementation of downlink orthogonal	Mrs. Vanita Kaba	International Journal of Electrical and Computer	Aug-24	https://ijece.iaescore.com/index.php/IJECE/article/view/35180/17576	Scopus

1.	Mrs. Ratnamala S Patil	Document Image Classification	441931-001	25/12/2024
2	Dr. Asharani Patil	Computer device for classroom education and data management	6441339	01/05/2025

	frequency division multiplexing based non-orthogonal multiple access transceiver using NI USRP platform		Engineering			
4	Enhanced Medical Image Reconstruction Using Deep Learning Classification: A High-Resolution, Noise Resilient Approach	Mrs. Shivganga Patil and Dr, Lakshmi Patil	International Journal of Communication Networks and Information	Sept-24	https://www.ijcnis.org/index.php/ijcnis/article/view/6896	Scopus
5	Enhanced scene text recognition using deep learning based hybrid attention recognition network	Mrs. Ratnamala S.Patil	International Journal of Artificial Intelligence	Dec-2024	https://doi.org/10.00159/ijai.v13.i4.pp4927-4938	Scopus

Patents published

Sl. No.	Name of the Faculty	Title	Application No.	Year of Publication
1.	Mrs. Ratnamala S Patil	Document Image Classification	441931-001	25/12/2024
2	Dr. Asharani Patil	Computer device for classroom education and data management	6441339	01/05/2025

CONGRATULATIONS

For

48th Series Student Project Proposals Approved for Sponsorship by KSCST

KSCST – Student Project Programme



1. Title: HEATING AND COOLING SUITE FOR MILITARY PEOPLE AND LOCATION TRACKING



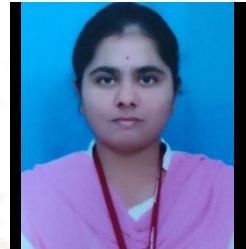
Ms. SUCHITA



Ms. VIJAYLAKSHMI



Ms. SHREENIDHI



Ms. VIJAYLAXMI

Guide: Dr. Nagaveni K

Co-guide: PROF. Laxmi Patil

2. Title: SMART TRAIN ENGINE WITH OBSTACLE DETECTION AND RAILWAY GATE CONTROL



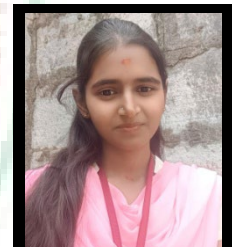
Ms. SOUMYA KANKARI



Ms. SAKSHI



Ms. SUSHMA MYAGERI



Ms. RAJNI

Guide: PROF. Shivleela Revoor

Co-guide: Dr. Sangeeta Patil

3. Title: WOMEN SAFETY BANGLES WITH TRACKING ALERTS



Ms. SOUMYA



Ms. SHARANAMMA



Ms. POOJA



Ms. PRATIBHA

Guide: PROF. BHAVANI R

Co-guide: PROF. SHOBHANA

4. **Title:** A PORTABLE VENTILATOR WITH AUTONOMOUS ROBOTIC MOVEMENT FOR PATIENT CARE AND MOBILITY



Ms. RATNASHREE P



Ms. SHWETA BHIKAMALE



Ms. VAISHNAVI HARKUDE

Guide: PROF. VANITA K

Co-guide: PROF. SHIVGANGA PATIL

5. **Title:** IOT BASED SMART AIRBAG DEPLOYMENT SYSTEM IN TWO WHEELERS



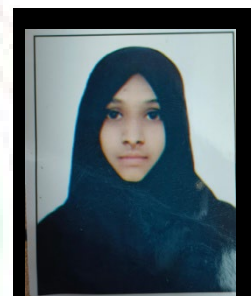
Ms. VAIDEHI KABA



Ms. SYEDA AFIFA FATIMA



Ms. SIMRAN SANIYA



Ms. SABA FARHEEN

Guide: PROF. RATNAMALA. S. PATIL

Co-guide: PROF. ABHILASHA A. PATIL

Sl. No.	Name Of the Student	Event Name	Organized Institute	Date	Remarks / Results
	Sakshi Betgeri	Digital Productivity with AI	Passport to Earning (P2E) Skills	25/06/2025	90%
	Akshata Desai	Digital Productivity with AI	Passport to Earning (P2E) Skills	24/06/2025	65%
	Saniya Raheman	Web Development Course	Rinex Organization	0/05/2025	A+
	Megha Hulagappa	Employability Skills Foundation Course	Passport to Earning (P2E) Skills	01/07/2025	70%
	Sneha Tonape	Fundamentals of Object Oriented Programming	NPTEL	01/01/2025 to 01/0/2025	73%
	Nida Muskan Bangi	Journal of Research and Advancement in Electrical Engineering	(NCEEICT-2025) GNDEC Bidar	2025	Paper Published
	Sneha L	Journal of VLSI Design and its advancements	(NCEEICT-2025) GNDEC Bidar	2025	Paper Published
	Vismaya	Journal of VLSI Design and its advancements	(NCEEICT-2025) GNDEC Bidar	2025	Paper Published
	Vijayalaxmi	Journal of VLSI Design and its advancements	(NCEEICT-2025) GNDEC Bidar	2025	Paper Published
	Soujanya	Journal of VLSI Design and its advancements	(NCEEICT-2025) GNDEC Bidar	2025	Paper Published
	Nida Muskan Bangi	5 th IEEE International Women in Technology Conference. WINTECHCON	IEEE	12/11/2024 To 13/11/2024	Top 5 Student project Award
	Chaitra	Advancement of Signal Processing and its applications	(NCEEICT-2025) GNDEC Bidar	2025	Paper Published
	Pavitra anant reddy	IEEE Kalinga University Student Branch Magazine	Kalinga University	Jan-june 2025	Article Published

ARTICLES



Virtual Reality



Soumya Shinde (Batch 2021-2025)



Virtual Reality (VR) is a computer-generated environment with scenes and objects that appear to be real, making the user feel they are immersed in their surroundings. This environment is perceived through a device known as Virtual Reality Headset or helmet. It is also quite common to confuse the term Virtual Reality with Augmented Reality. The main difference between the two is that VR builds the world in which we immerse ourselves through a specific headset. It is fully immersive and everything we see is part of an environment artificially constructed through images, sounds, etc.

On the other hand, in **Augmented Reality (AR)** our own world becomes the framework within which objects, images or similar are placed. VR environments are primarily experienced through two of the five senses: sight and sound. This experience is delivered through VR headsets, which often include a screen in front of the eyes, and sometimes headphones. It does this by using special equipment that covers your eyes and sometimes your ears called VR Headset. Virtual Reality creates a believable, interactive 3D environment that you can explore and interact with, making you feel like you are really there. This is made possible by putting on a head-mounted display that sends a form of input tracking. The display is split between the eyes and thus creates a stereoscopic 3D effect with stereo sound to give you a graphic experience.

Engineering



Savitri shekel (batch 2021-25)



Engineering is the foundation of modern civilization, driving innovation and solving real-world problems. It spans multiple disciplines, including civil, mechanical, electrical, and computer engineering. Civil engineers design infrastructure, while mechanical engineers create machines and vehicles. Electrical engineers power our world through electronics, and computer engineers develop software and AI technologies.

Engineering has revolutionized transportation, communication, and healthcare, improving quality of life globally. It plays a crucial role in sustainability, with advancements in renewable energy and eco-friendly designs. Challenges like climate change and cybersecurity threats push engineers to develop smarter solutions.

The future of engineering lies in AI, space exploration, and smart cities. As technology advances, engineers will continue shaping a more efficient, connected, and sustainable world. Their creativity and problem-solving skills make them the driving force behind human progress.

6G Mobile Communication Network



Vijayalakshmi (batch 2021-25)

6G is the next-generation mobile communication technology, expected to launch around 2030. It promises ultra-high-speed data transfer, lower latency, and enhanced connectivity compared to 5G. With speeds up to 100 times faster than 5G, 6G will enable real-time holographic communication, immersive AR/VR experiences, and advanced AI integration.

This technology will support smart cities, autonomous vehicles, and the Internet of Everything (IoE), connecting billions of devices seamlessly. 6G will utilize terahertz (THz) frequencies, offering higher bandwidth and improved network efficiency. Energy-efficient and AI-driven, it will revolutionize industries like healthcare, automation, and space communication.



Despite its potential, challenges like infrastructure development and security concerns must be addressed. As research progresses, 6G will redefine global connectivity, making communication faster, smarter, and more efficient.

The Impact of AI Employment: Jobless or Job Creation



Ankita (Batch 2022-26)

The Job Replacement Narrative:

Critics often argue that AI will lead to massive job displacement, especially in routine and repetitive tasks. Automation has already made its mark in industries like manufacturing, where robots have taken over assembly lines. Similarly, the rise of AI-powered chat bots and virtual assistants has impacted customer service roles. As AI continues to advance, it is expected to replace certain jobs that involve predictable, rule-based tasks. However, history tells us that technological advancements, despite initial job displacements, often lead to the creation of new, more specialized roles. The key lies in adapting to these changes and acquiring the necessary skills to remain relevant in the evolving job market.

The Job Creation Perspective:

On the flip side, proponents of AI argue that it is a job creator, not just a destroyer. AI has the potential to enhance productivity and efficiency across industries, leading to the creation of new roles that require human intelligence, creativity, and emotional intelligence — areas where machines currently fall short. For instance, the development and maintenance of AI systems require skilled professionals in data science, machine learning, and artificial intelligence. As industries adopt AI, the demand for experts in these fields continues to rise. Moreover, AI can amplify human capabilities, enabling workers to focus on more complex and strategic tasks while leaving routine activities to machines.

Carbon Neutrality



Premalata (Batch 2022-26)

In the face of escalating climate change, carbon neutrality stands as a beacon of hope for Sustainable future. Achieving carbon neutrality means balancing the carbon dioxide emitted into the atmosphere with an equivalent amount removed, paving the way to a zero-emission society. This is critical in limiting global warming to 1.5 C, as outlined by the Paris agreement. The blueprint for carbon neutrality involves three pillars: reducing emission, increasing renewable energy adoption, and carbon offsetting. Transitioning from fossil fuels to renewable energy sources such as wind, solar, and hydro is essential, innovations in green technology, energy-efficient practices, and circular economies further support this shift, additionally, reforestation, wetland restoration, and carbon capture technologies play a vital role in absorbing excess atmospheric CO₂.

Collaboration between governments, businesses, and individuals is paramount; policies like carbon pricing and green subsidies can incentivize change, while corporations can implement sustainable practices and invest in green solutions. Individuals, too, contribute by adopting energy-efficient habits and supporting eco-friendly products.

Carbon neutrality is more than an environmental goal-it is an ethical commitment to future generations. By acting decisively today, we can create a resilient, sustainable world for tomorrow.

The Future is Green: Pathways to a Sustainable World



Aishwarya J (Batch 2022-26)

Achieving a sustainable future requires innovation, policy shifts, and lifestyle changes.

1. Renewable Energy Revolution ⚡

Transitioning from fossil fuels to solar, wind, and hydro power is key. Governments are phasing out coal and investing in smart grids and energy storage for efficiency.

2. Sustainable Transportation

EVs, hydrogen cars, and improved public transport reduce emissions. Cities promote cycling, walking, and carpooling to cut carbon footprints.

3. Green Architecture & Urban Planning

Buildings cause 40% of CO₂ emissions. Smart cities with energy-efficient designs, green roofs, and urban forests improve air quality and biodiversity.

4. Circular Economy & Waste Reduction

Designing products for reuse, recycling, and minimal waste conserves resources. Companies are reducing plastic and adopting sustainable packaging.



The Road ahead a Rollercoaster Ride into the Future



Vrishti (Batch 2023-27)

The Future of Tech: Bend, Encrypt, and Accelerate

Imagine a world where your phone rolls up like a paratha, your transactions are hacker-proof, and your downloads finish before you decide what to watch. The future is here!

Flexible Electronics

Bendable gadgets are no longer sci-fi. With stretchable materials and organic semiconductors, flexible tech is set to reshape industries.

Did you know? Future Kindles might feel like real paper with flexible e-paper!

Quantum Cryptography

Cybersecurity's superhero—using quantum mechanics to create unbreakable encryption. *Quantum Internet*: Data teleportation instead of cables!

Terahertz Communications

Blazing-fast speeds for instant downloads and holographic calls.

Astonishing Fact: THz waves can detect a sugar cube in a box from 10 meters away!

Beyond speed and security, these innovations promise a smarter, safer, and more connected world. The future is flexing, encrypting, and surfing terahertz waves into our lives. Get ready for the ride!



Time Travelling



Bhavanashree (2023-27)

TIME TRAVEL: A VISIT INTO THE FUTURE AND PAST

Time travel was once pure science fiction, introduced to many through cartoons and stories. Today, it's a subject of serious scientific inquiry, explored by Albert Einstein, Ronald Mallett, and Amos Ori. While we aren't piloting DeLorean time machines yet, advancements in **Electronics and Communication Engineering (ECE)** play a crucial role in unlocking its mysteries.

Einstein's Theory of Relativity

- **Special Relativity:** Time dilation occurs at speeds near light, slowing time for fast-moving objects.
- **General Relativity:** Predicts black holes and wormholes as potential pathways for time travel.

The Role of ECE in Time Travel

- **Atomic Clocks:** Essential for measuring time dilation effects.
- **Signal Processing:** Helps analyze data from extreme environments like black holes.
- **Quantum Computing:** Simulates space-time scenarios and explores possible time travel pathways.
- **Challenges to Overcome** Near-light-speed travel demands immense energy beyond current capabilities.
- The **Grandfather Paradox** raises logical contradictions about altering the past.

Conclusion

Time travel remains a distant dream, but rapid advancements in **physics, mathematics, and engineering** may one day unlock its secrets. For ECE students, it offers an exciting frontier to explore relativity, quantum mechanics, and futuristic technologies!



Crafting perfect circuit: AI's role in Electronics



Kajal (Batch 2023-27)

AI & Signal Processing: A Powerful Partnership

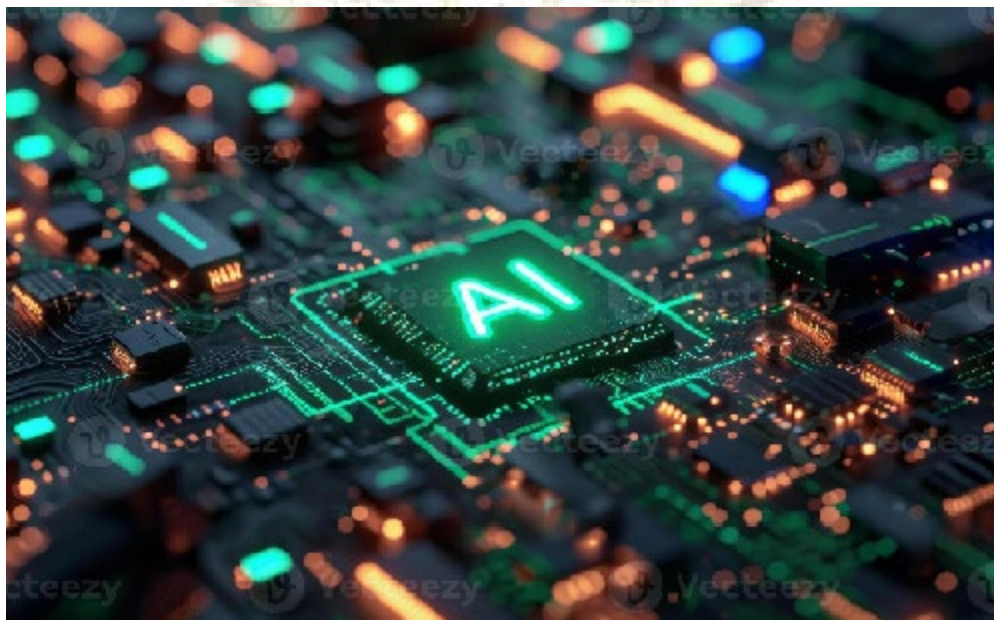
AI and signal processing are the ultimate dream team—one analyzes signals (images, sounds, data), while the other gives them intelligence. Together, they're making life smarter, safer, and even magical.

Transforming Industries

- **Healthcare:** Detecting diseases in medical scans faster than doctors.
- **Climate Science:** Tracking deforestation and predicting natural disasters.
- **Everyday Life:** Powering Alexa, facial recognition, and wearable health monitors.
- **Accessibility:** Enabling real-time captions for the hearing impaired and AI-driven navigation for the visually impaired.

Shaping the Future

Beyond convenience, this duo is reshaping how we connect with the world. From self-driving cars to personalized learning tools, the possibilities are endless. As AI evolves and signal processing advances, they're paving the way for a smarter, kinder future—where technology works seamlessly with us to improve lives.



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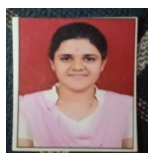
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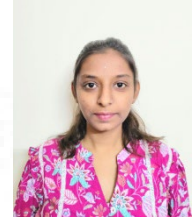
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