

(A UGC Autonomous Institution, Approved by AICTE, Accredited by NBA and NAAC-A Grade, Affiliated to JNTUH)

#### DEPTARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

# THE REAL PROPERTY IN THE REAL PROPERTY INTO THE REAL PR Niranta 2024-2025 " The Wave of INNOVATION "

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# **ACADEMIC LEADERS**



#### DR. N. GOUTHAM RAO Chairman

Dr. N. Goutham Rao, a scholar with a Doctorate in Sociology, is known for his intellectual depth and administrative expertise. He has successfully led UGC-funded projects at Osmania University and balances tradition with modernity, making him approachable to both rural and urban academic communities. A firm disciplinarian, he manages academics and finances with precision. Dr. Rao is also a life member of several esteemed bodies, including the Indian Sociology Society and the American Studies Research Center.

#### DR. G. MANOHAR REDDY Secretary

Dr. G. Manohar Reddy, a vibrant member of the Management Committee, combines academic excellence with a strong commitment to education and social service. A gold medalist in M.Sc. Chemistry (1989), he remains actively involved in teaching and student engagement. With a deep understanding of student needs and a passion for community service, he contributes to initiatives in both Hyderabad and Nalgonda. He is also a life member of several educational institutions and has served as President of the Federation of Engineering Colleges Management, Andhra Pradesh.





#### DR. P. V. S. SRINIVAS Professor & Principal

Dr. P. V. S. Srinivas, Principal and Professor at VBIT, is a distinguished academician with over 27 years of experience in academia and industry. He holds a Ph.D. and M.Tech in CSE from JNTUH and a graduation in ECE from the Institution of Engineers (India). A Fellow of IEI and Senior Member of IEEE and IAENG, he has published nearly 90 papers and led projects under AICTE and TEQIP-III. He is a recipient of the Prof. Pathak Award from IIT Bombay and holds a CMI Level 5 Certification under the UKIERI initiative. A committed mentor and visionary leader, he fosters academic excellence, research, and holistic development at VBIT.

# **ABOUT INSTITUTE**



### **INSTITUTION OVERVIEW**

• Vignana Bharathi Institute of Technology (VBIT) is a premier hub for engineering excellence, offering an education that aligns with industry standards. Students experience a transformative learning environment, equipping them with the skills and knowledge to meet contemporary challenges and emerge as leaders in their fields.

### VISION

• To emerge as a premier institution for technical education in the country through academic excellence and to be recognized as a center for excellence in Research and Development.

### MISSION

• To establish a strong institute by consistently maintaining the art infrastructure and a cohesive, world-class team by providing need-based technical education.

# **ABOUT DEPARTMENT**

### VISION

• To be a forerunner in the advancement of Electronics and Communication Technologies through education and Research to meet the global challenges.

### MISSION

- To impart quality education through an effective teaching-learning process and make the learning globally competitive.
- Carry out research through constant interaction with research and development organisations.
- Involved in creative and group activities for career choices & lifelong learning.
- Develop skills to solve complex technological problems of current times and also provide a framework for promoting collaborative and multidisciplinary activities.

# **PROGRAM EDUCATIONAL OBJCTIVES**

- PEO1: Domain Knowledge: Graduates of ECE-VBIT will be able to synthesize mathematics, science, engineering fundamentals, and laboratory and attain practical experiences to formulate and solve engineering problems in electronics engineering domains and shall have proficiency in electronics-based engineering and the use of electronic tools.
- PEO2: Professional Employment: Graduates of ECE-VBIT will succeed in entry-level engineering positions within the core electronic engineering or manufacturing firms in regional, national, or international industries and with government agencies.
- PEO3: Higher Degrees: Graduates of ECE-VBIT will succeed in the pursuit of advanced degrees in engineering or other fields where a solid foundation in mathematics, science, and engineering fundamentals is required.
- PEO4: Engineering Citizenship: Graduates of ECE-VBIT will be prepared to communicate and work effectively on team-based engineering projects and will practice the ethics of their profession consistent with a sense of social responsibility.
- PEO5: Lifelong Learning: Graduates of ECE-VBIT will recognise the importance of and have the skills for continued independent learning to become experts in their chosen fields and to broaden their professional knowledge.

### **PROGRAM SPECIFIC OUTCOMES**

- PSO1 Analyse, design, and implement specific engineering problems in the areas of VLSI and embedded systems.
- PSO2 Apply the knowledge of domain-specific skill sets for analysis of signal processing and communications.
- PSO3 Analyse and solve the complex engineering problems using state-of-the-art hardware and software tools.
- PSO4 Develop proficiency in innovative technologies to sustain in the dynamic industry challenges.

# A MESSAGE FROM HEAD OF THE DEPARTMENT



#### DR. U. POORNA LAKSHMI, Ph.D BITS HYD Senior IEEE Member, Fellow IETE

Dear Students, Faculty, Alumni, and Industry Partners,

It is with immense pride that I welcome you to the Department of Electronics and Communication Engineering (ECE) at Vignana Bharathi Institute of Technology. Established in 2004, our department has consistently upheld a tradition of academic excellence, innovation, and industry readiness. We offer a B.Tech in ECE and an M.Tech in Communication Systems—accredited by the National Board of Accreditation (NBA) and affiliated with Jawaharlal Nehru Technological University, Hyderabad (JNTUH).

As Head of the Department, I have the honour of leading a dedicated team of experienced faculty who are committed to imparting a strong technical foundation, practical skills, and a forward-thinking mindset. The field of ECE is undergoing rapid transformation driven by emerging technologies such as 5G/6G communications, the Internet of Things (IoT), Artificial Intelligence (AI), VLSI design, Robotics, Embedded Systems, and Quantum Computing. Our curriculum is carefully designed to align with these evolving trends and equip students with the necessary skills to thrive in the modern technological landscape.

We provide advanced infrastructure, including state-of-the-art laboratories, exclusive project and R&D labs, and value-added programs. Our partnerships with leading companies such as Microchip Inc. offer students real-time exposure to industry practices and applications.

Graduates from our department are highly sought after across multiple sectors, with job profiles such as VLSI Design Engineer, IoT Developer, Robotics Engineer, Embedded Systems Specialist, and AI/ML Engineer. Our students have secured placements in prestigious organisations like TCS, Infosys, Capgemini, Wipro, and Cognizant, as well as public sector bodies like ISRO, DRDO, and BSNL.

We are committed to nurturing socially responsible, innovative, and industry-ready professionals. Through continuous mentoring, skill development, and value-driven education, we strive to empower students to become the future leaders of technology.

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# **DEPARTMENT OF ECE**



Dr. Y. Srinivas Professor



Dr. S. Pothalaiah Professor



Dr. V. Sharmila Professor



Dr. Ch. Suneetha Associate Professor



Dr. G. Narsimhulu Associate Professor



Dr. G. Bhaskar Associate Professor



Mr. K. J. Onesim Associate Professor



Mr. P. Vidya sagar Associate Professor



Mr. S. Kiran Babu Associate Professor

# **DEPARTMENT OF ECE**



Ms. Tota Sravanthi Assistant Professor



Mr. Ch. Rajendra Prasad Assistant Professor



Mrs. Y. Roji Assistant Professor



Ms. T. Pushpa Assistant Professor



Mr. Md. Mohsin Ali Assistant Professor



Mrs. J. Manga Assistant Professor



Mrs. B. Divya Assistant Professor



Mrs. P. Sreevani Assistant Professor



Mr. P. Prakash Babu Assistant Professor



Mr.K.V. Subba Rao Assistant Professor



Mr. V. Leela Kumar Assistant Professor

# **DEPARTMENT OF ECE**



Mr. B. Sri Krishna Assistant Professor



Mrs.T. Jyothsna Assistant Professor



Mr.V. Rajasekhar Assistant Professor



Mrs.Ch. Kranthi Rekha Assistant Professor



Mr.A. Adi narayana Assistant Professor



Mrs. Belcy D mathews Assistant Professor



Mr.L. Rajeshwar Reddy Assistant Professor



MS.L. Hema Supriya Reddy Assistant Professor



Mr.P.Sandeep Kumar Assistant Professor



Mrs.D. Kirtana Assistant Professor



Mr.Ch. Ranjith Assistant Professor



Mr.D. Chandra Shekar Assistant Professor



Mrs.M. Srilekha Assistant Professor



Mrs.N. Swathi Assistant Professor



Ms. P. Pushpa Assistant Professor



Mr. K. Prashanth Assistant Professor



# **DEPT. CLUBS**





### JOURNEY OF IETE-ISF VBIT

IETE-ISF VBIT, established on April 2, 2008, has been dedicated to fostering technical and professional growth through various events, workshops, and career guidance sessions. In its recent transition to IETE- ISF VBIT, the chapter has expanded its focus on trending technologies, successfully completed the 2020- 2021 Membership Drive, and currently has 40 active members. Looking ahead, IETE-ISF VBIT plans to launch a new wing dedicated to Space Sciences and Technology, marking a significant step towards furthering technical innovation and development at VBIT.

### VISION

• Reaching the un-reached and empowering the youth through Technical Education and Skill Development.

# MISSION

• Advancement of Electronics, Telecommunication, Information Technology & other related disciplines to contribute in Nation's Human Resource & Infrastructure Development through our Engineers.



# **CYBER ELITE**

Cyber Elite: A Two-Day Cybersecurity Odyssey Organized by IETE-ISF VBIT in collaboration with Abhedya and vITarka, Cyber Elite empowered students with hands-on ethical hacking skills under the expert guidance of Mr. Ajinkya Lohakare. From Footprinting to Cryptography, participants explored real-world cyber threats using tools like Kali Linux concluding each day with interactive quizzes and high-impact learning.

### Nirantazı

# **DEPT. CLUBS**



### VISION

• To be a leading student-driven robotics community that cultivates a culture of exploration, development, and innovation—empowering students to become future-ready technologists and leaders in the field of robotics and automation.

### MISSION

• To inspire and nurture students' interest in robotics by providing a collaborative platform for learning, designing, and building innovative robotic systems. The club aims to bridge theoretical knowledge with practical application through structured workshops, hands-on projects, and competitive challenges, fostering creativity, problem-solving, and technical excellence.

# **TECH TALK On Build Ai For India**



The Robotics Club successfully organized a thought-provoking TECH TALK on 'Building Al for India' on 12th October 2023. Mr. Y Kiran Chandra, Founder and Chairman of SWECHA, captivated the audience with insights into Artificial Intelligence 'a portal to a new world where possibilities are endless.' The engaging session, held in collaboration with Chitrika and Swecha Labs, fostered active student participation, idea-sharing, and meaningful dialogue.

# **FACULTY PATENTS**

#### Dr. U. Poorna Lakshmi, Professor Patent Title: AI Based Optical Fiber Fusion Splicer

Dr. U. Poorna Lakshmi's filed patent introduces AI-based enhancements in optical fiber fusion technology. Filed under Application Number 430968-001 on 19th September 2024.

#### Dr. V. Sharmila, Professor Patent Title: Compute-in-Memory Deployment on FPGAs for Deep Learning Acceleration

Dr. V. Sharmila presents an innovative method for accelerating deep learning using FPGA-based compute-in-memory systems. Published under Application Number 202441011984 A on 3rd August 2024.

#### Patent Title: Deep CNN-Based Chest X-ray Denoising for Enhanced Medical Imaging

This patent proposes a deep CNN architecture for improving the quality of chest X-ray images, aiding medical diagnostics. Published under Application Number 202441011974 A on 3rd August 2024.

#### Dr. Bhaskar Gugulothu, Associate Professor Patent Title: (12) Patent Application Publication, (19) India

Dr. Bhaskar Gugulothu's patent focuses on innovative approaches under the Indian patent framework, highlighting advanced research contributions. Published under Application Number 202441050584 A on 5th July 2024.

#### Patent Title: Republic of South Africa Patents Act, 1978

This patent application showcases Dr. Bhaskar Gugulothu's international contribution to intellectual property, filed under Application Number 2024/07831 on 16th October 2024.

#### Patent Title: Deep Learning Based Singer Identification and Classification Using Vocal Parts

Dr. G. Bhaskar's innovative work on using deep learning techniques to identify and classify singers based on vocal parts has been granted a patent with Application Number 202441031080 A, published on 26th April 2024.

#### Mrs. Ch. Kranthi Rekha, Assistant Professor Patent Title: Deep CNN-Based Chest X-ray Denoising for Enhanced Medical Imaging

Mrs. Ch. Kranthi Rekha's patent introduces a deep convolutional neural network-based approach for denoising chest X-rays, improving clarity in medical imaging. Published under Application Number 202441011974 A on 3rd August 2024.

#### 2024 - 2025

# **RESEARCH CONTRIBUTIONS**

#### Dr. U. Poorna Lakshmi, Professor

#### Paper Title: BER Performance Evaluation of DWDM Optical Network at Various Channel Spacing

Dr. U. Poorna Lakshmi's research investigates the bit error rate performance of DWDM optical networks under varying channel spacing. This work was published in the Indian Journal of Natural Sciences (May 2024), contributing valuable insights to optical communication systems.

#### Paper Title: Design of optical S-bend power splitter

In this study, Dr. U. Poorna Lakshmi proposed a novel design of an optical S-bend power splitter, enabling efficient power distribution in integrated photonic circuits. The paper was presented at ICMST 2024, hosted by ACET, Tamil Nadu, on 3rd–4th May 2024, and published in Material Science Forum.

#### Dr. Y. Srinivas, Professor

#### Paper Title: Brain Tumor Detection through Image Fusion Using Cross Guided Filter and Convolutional Neural Network

Dr. Y. Srinivas published his technical research titled "Brain Tumor Detection through Image Fusion Using Cross Guided Filter and Convolutional Neural Network" in the ECTI Transactions on Computer and Information Technology. This Scopus-indexed journal article appeared in Volume 18, Issue 4, pages 579–590, in October 2024 (ISSN: 2286-9131), and highlights advancements in brain tumor detection using image processing and deep learning techniques.

#### Paper Title: Enhanced Brain Tumor Classification through Optimized Semantic Preserved Generative Adversarial Networks

Dr. Y. Srinivas published his technical research titled "Enhanced Brain Tumor Classification through Optimized Semantic Preserved Generative Adversarial Networks" in WILEY's journal Microscopy Research and Technique. This SCI-indexed journal article (ISSN: 1097-0029) was published in December 2024 and focuses on advanced classification techniques in brain tumor diagnosis using semantic-preserving GANs. The article is accessible at: https://doi.org/10.1002/jemt.24767

#### Dr. Ch. Suneetha, Associate Professor Paper Title: Power Reduction in Ripple Carry Adder Circuit using SAPON and LCNT Techniques

Dr. Ch. Suneetha presented her technical research titled "Power Reduction in Ripple Carry Adder Circuit using SAPON and LCNT Techniques" at the 15th International Conference on Advances in Computing, Control, and Telecommunication Technologies (ACT 2024). This Scopus-indexed conference was organized by the Grenze Scientific Society and held on 21st & 22nd June 2024. The work focuses on innovative low-power design methodologies in digital circuit design.

#### 2024 - 2025

# **RESEARCH CONTRIBUTIONS**

#### Dr. G. Bhaskar, Associate Professor

# Paper Title: Crosstalk Noise Modeling for Coupled SWCNT Bundle Interconnects using MRTD Technique

Dr. G. Bhaskar published his technical research titled "Crosstalk Noise Modeling for Coupled SWCNT Bundle Interconnects using MRTD Technique" in the Scope Journal. This Scopus-indexed journal article (ISSN: 1177-5653) was published in September 2024, in Volume 14, Issue 3, pages 424–442, and presents significant contributions to signal integrity modeling in nano-interconnect systems using the MRTD technique.

#### Dr. G. Narsimhulu, Associate Professor Paper Title: Chatbot using Machine Learning

Dr. G. Narsimhulu presented his technical research titled "Chatbot using Machine Learning" at the 15th International Conference on Advances in Computing, Control, and Telecommunication Technologies (ACT 2024). This Scopus-indexed conference was organized by Grenze Scientific Society and held on 21st & 22nd June 2024, focusing on modern advancements in intelligent computing systems.

#### Paper Title: PIR Triggered Security Alert System using Raspberry PI

Dr. G. Narsimhulu presented his technical research titled "PIR Triggered Security Alert System using Raspberry PI" at the 15th International Conference on Advances in Computing, Control, and Telecommunication Technologies (ACT 2024). This Scopus-indexed conference, organized by Grenze Scientific Society, was held on 21st & 22nd June 2025, and featured innovations in smart security systems and embedded technology.

#### Mr. P. Vidya Sagar, Associate Professor Paper Title: Deep Learning Techniques for Image Recognition in IoT-Enabled Surveillance Systems

Mr. P. Vidya Sagar presented his research paper titled "Deep Learning Techniques for Image Recognition in IoT-Enabled Surveillance Systems" at the 2nd Asian Conference on Intelligent Technologies (ACOIT 2024) organized by Dr. T. Thimmaiah Institute of Technology, Kolar, on 6–7 September 2024. The conference is Scopus-indexed and technically sponsored by IEEE. The paper focuses on the application of deep learning methods in smart surveillance integrated with IoT environments.

#### Mr. S. Kiran Babu, Associate Professor Paper Title: An Effective Investigation for Quality of Service Enhancement of Content Delivery Network for HTTP Live Streaming Using H.265

Mr. S. Kiran Babu published his technical research titled "An Effective Investigation for Quality of Service Enhancement of Content Delivery Network for HTTP Live Streaming Using H.265" in the Scalable Computing journal. This Scopus-indexed journal article (ISSN: 1895-1767) was published in July 2024, in Volume 25, Issue 6, pages 2703–2710, and focuses on improving quality of service in modern multimedia content delivery systems.

2024 - 2025

# **RESEARCH CONTRIBUTIONS**

#### Paper Title: Food Spoilage Detection using IoT and Machine Learning

Mr. S. Kiran Babu presented his technical research titled "Food Spoilage Detection using IoT and Machine Learning" at the 2024 5th International Conference for Emerging Technology (INCET). This Scopus-indexed conference was held from 24th to 26th May 2024 at VTU, Belgaum, India, and focused on advancements in emerging technologies through IoT and intelligent systems.

#### Paper Title: A Parkinson's Disease Detection Using Support Vector Machine in Machine Learning

Mr. S. Kiran Babu presented his technical research titled "A Parkinson's Disease Detection Using Support Vector Machine in Machine Learning" at the 2024 Eighth International Conference on Parallel, Distributed and Grid Computing (PDGC). This Scopus-indexed conference was held from 18th to 20th December 2024 at Jaypee University of Information Technology, Waknaghat, Solan, Himachal Pradesh, and highlighted innovations in machine learning for healthcare diagnostics.

#### Paper Title: Real-Time Drawing and Hand Tracking Using Machine Learning

Mr. S. Kiran Babu presented his technical research titled "Real-Time Drawing and Hand Tracking Using Machine Learning" at the Fifth International Conference on Sustainable Communication Networks and Applications (ICSCNA 2024). This Scopus-indexed conference was held from 10th to 11th December 2024 at Bharath Niketan Engineering College, Theni, Tamil Nadu, India, emphasizing real-time interactive systems powered by machine learning.

#### Mrs. Y. Roji, Assistant Professor

#### Paper Title: An Automated Sparse Channel Estimation Framework for MU-MIMO-OFDM System with Adaptive Extreme Learning and Heuristic Mechanism

Mrs. Y. Roji, Assistant Professor, published her paper in Transactions on Emerging Telecommunications Technologies (Volume 35, Issue 11, e70015) in November 2024. The paper focuses on sparse channel estimation in MU-MIMO-OFDM systems.

#### Paper Title: Implementing Intelligent-Based Sparse Channel Estimation in MU-MIMO-OFDM System with Hybridized Optimization Algorithm

Mrs. Y. Roji, Assistant Professor, published her paper in International Journal of Communication Systems (Volume 37, Issue 12, e5817) in August 2024. The paper covers intelligent-based sparse channel estimation techniques in communication systems.

#### Mrs. Manga J., Assistant Professor Paper Title: Real-Time Accident Detection and Reporting Using the Internet of Things

Mrs. Manga J., Assistant Professor, presented her paper "Real-Time Accident Detection and Reporting Using the Internet of Things" at the SASI-ITE'24 conference on 24th February 2024, organized by SASI Institute of Technology, Tadepalligudem, India. The conference is Scopus-indexed and focuses on social and sustainable innovations in technology and engineering.

2024 - 2025

# **RESEARCH CONTRIBUTIONS**

#### Paper Title: Advanced Metro Station Traffic Monitoring and Updating to IoT

Mrs. Manga J., Assistant Professor, presented her paper "Advanced Metro Station Traffic Monitoring and Updating to IoT" at the CSSP-24 conference on 27th–28th April 2024, organized by Hinweis. The conference is Scopus-indexed and discusses advancements in control systems and signal processing.

#### Paper Title: Advanced Electronic Protection System to Detect Exam Paper Leakages Using Biometric

Mrs. Manga J., Assistant Professor, presented her paper "Advanced Electronic Protection System to Detect Exam Paper Leakages Using Biometric" at the CSSP-24 conference on 27th–28th April 2024, organized by Hinweis. The conference is Scopus-indexed and explores innovations in security systems and control technology.

#### Mrs. B. Divya, Assistant Professor Paper Title: Design a Vedic Multiplier Using Xilinx Vivado

Mrs. B. Divya, Assistant Professor, presented her paper "Design a Vedic Multiplier Using Xilinx Vivado" at the 15th International Conference on Advances in Computing, Control, and Telecommunication Technologies (ACT 2024) held on 22nd–23rd December 2023, organized by Grenze Scientific Society. The conference is Scopus-indexed and focuses on advancements in computing, control, and telecommunication technologies.

#### Ms. T. Pushpa, Assistant Professor Paper Title: Design and Implementation of 16-bit Manchester Carry Chain Adder with Domino Logic Using FinFET Technology

Ms. T. Pushpa, Assistant Professor, presented her paper "Design and Implementation of 16-bit Manchester Carry Chain Adder with Domino Logic Using FinFET Technology" at the CSSP-24 conference on 27th–28th April 2024, organized by Hinweis. The conference is Scopus-indexed and focuses on advancements in control systems and signal processing.

#### Mr. P. Prakash Babu, Assistant Professor Paper Title: Design and Evaluation of Two-Stage Op-Amp for Biomedical Applications Using 90nm CMOS Technology

Mr. P. Prakash Babu, Assistant Professor, presented his paper "Design and Evaluation of Two-Stage Op-Amp for Biomedical Applications Using 90nm CMOS Technology" at the 7th International Conference on Devices, Circuits, and Systems (ICDCS) held on 23rd–24th April 2024, organized by Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu. The conference is Scopus-indexed and focuses on advancements in devices, circuits, and systems.

2024 - 2025

# **RESEARCH CONTRIBUTIONS**

#### Mr. B. Sri Krishna, Assistant Professor Paper Title: Realization of a 16x16 Barrel Shifter with 16-Bit Bin. to Gr. Converter for Encryption Using FinFET Technology

Mr. B. Sri Krishna, Assistant Professor, will present his paper "Realization of a 16x16 Barrel Shifter with 16-Bit Bin. to Gr. Converter for Encryption Using FinFET Technology" at the IEEE 2024 2nd World Conference on Communication & Computing (WCONF) to be held on 12th–14th July 2024, organized by Kalinga University, Raipur. The conference is Scopus-indexed and focuses on advancements in communication and computing technologies.

#### Mr. L. Rajeshwar Reddy, Assistant Professor Paper Title: Detection of Cyberbullying across Social Networks

Mr. L. Rajeshwar Reddy presented his paper titled "Detection of Cyberbullying across Social Networks" at the 2024 International Conference on Intelligent Systems for Cybersecurity (ISCS-24) held in Gurugram, India, on 3rd-4th May 2024. The conference is Scopus-indexed and focused on intelligent system applications for improving cybersecurity across digital platforms.

#### Ms. L. Hema Supriya Paper Title: Remote Control Metal Detecting Robot to Assist Bomb Detection and Rescue Team

Ms. L. Hema Supriya presented her research paper titled "Remote Control Metal Detecting Robot to Assist Bomb Detection and Rescue Team" at the 2nd International Conference on Control Systems and Signal Processing (CSSP-24) organized by Hinweis. The conference took place on 27th–28th April 2024 and is Scopus-indexed. The paper explores the development of a robot designed to assist bomb detection and rescue teams using remote control metal detection techniques.

# Paper Title: Ensemble Learning-Based Supervised Learning Approach for Designing of 5G/B5G Classification System

Ms. L. Hema Supriya presented her research paper titled "Ensemble Learning-Based Supervised Learning Approach for Designing of 5G/B5G Classification System" at the 2nd International Conference on Control Systems and Signal Processing (CSSP-24) organized by Hinweis. The conference took place on 27th–28th April 2024 and is Scopus-indexed. The paper discusses an ensemble learning-based approach for the design of 5G/B5G classification systems, contributing to the advancements in wireless communication technology.

#### Mrs. M. Srilekha, Assistant Professor Paper Title: Double Verification Using HOG Algorithm

Mrs. M. Srilekha, Assistant Professor, presented her research paper titled "Double Verification Using HOG Algorithm" at the 2nd International Conference on Control Systems and Signal Processing (CSSP-24) organized by Hinweis. The conference took place on 27th–28th April 2024 and is Scopus-indexed. The paper explores the application of the Histogram of Oriented Gradients (HOG) algorithm for double verification processes, enhancing security and authentication systems.

2024 - 2025

# **RESEARCH CONTRIBUTIONS**

#### Mrs. Kirtana, Assistant Professor Paper Title: Wireless Blackbox Using Sensors and GPS Module

Mrs. Kirtana, Assistant Professor, presented her paper "Wireless Blackbox Using Sensors and GPS Module" at the CSSP-24 conference on 27th–28th April 2024, indexed in Scopus. The paper focuses on a wireless blackbox system utilizing sensors and GPS for tracking and monitoring. Conference Reference: 2395-5295

#### Mrs. N. Swathi, Assistant Professor Paper Title: Implementation of Physical Coding Sublayer of PCIe 3.0

Mrs. N. Swathi, Assistant Professor, will present her paper "Implementation of Physical Coding Sublayer of PCIe 3.0" at the 5th International Conference for Emerging Technology (INCET 2024) to be held on 24th–25th May 2024 in Belgaum, Karnataka, India. The conference is Scopus-indexed and focuses on emerging technologies.

# **Faculty Article**

### Applications of VLSI in Neuromorphic Computing



-Vidya Sagar Potharaju

Artificial Intelligence (AI) and Machine Learning (ML) techniques are transforming the VLSI industry by providing designers and manufacturers with powerful tools for optimizing design, reducing defects, increasing yield, and improving power efficiency. As an example, the design of a highperformance VLSI circuit for image processing traditionally involves a lot of trial-and-error and manual optimisation. However, by using AI and ML, we can streamline the design process and achieve better performance. We can start by training an ML algorithm on a large dataset of images and their corresponding processing requirements. The algorithm can learn to identify patterns in the data and make predictions about the processing requirements for new images. Next, we can use this algorithm to optimise the design of our VLSI circuit. By embedding the processing requirements for a given image, the algorithm can suggest an optimised circuit design that meets those requirements. This can save a lot of time and effort compared to traditional design methods. Once we have a circuit design, we can use AI and ML to analyse its behavior and identify potential defects or areas for improvement. For example, we can use image analysis algorithms to detect any errors or inconsistencies in the output of the circuit.







"Class of 2021-2025 – your journey has shaped you, your future awaits you. Go chase your freams with courage and heart. ペリトアド ちゃうだ "

# **STUDENT ACHIVEMENTS**



#### P. V. S. D. D. Mallikarjuna

P V S D D Mallikarjuna (21P61A04D0) has achieved a significant academic milestone with the *publication of his research paper on IEEE Xplore*, one of the world's leading digital libraries for scientific and technical content. This accomplishment reflects his dedication to innovation and contribution to the field of VLSI design. His work aligns with emerging trends in electronics and stands as a testament to his research capabilities. Being featured on such a prestigious platform is a proud moment for both him and the institution.

#### M. Sanjana

M. Sanjana (22P61A04B0) successfully completed a Leadership Development Program as an intern at *Winzera Pvt. Ltd.* During this program, she gained valuable insights into leadership principles, effective communication, and personal development. Her journey included tackling real-world challenges and making strategic decisions, which enhanced her critical thinking and problem-solving abilities. This internship served as a platform for honing her leadership potential and preparing her for future professional endeavors. It marks a significant step toward becoming an impactful and confident leader.



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#### Kudithi Uday Kiran Reddy

Kudithi Uday Kiran Reddy (22P61A0487) successfully participated in the "VLSI for Beginners" course organized by the National Institute of Electronics and Information Technology (NIELIT), Calicut, under the *Ministry of Electronics and Information Technology, Government of India.* The 5-day online course, held from 7th to 11th March 2025, was part of the Chips to Startup Programme and provided foundational knowledge in Very-Large-Scale Integration (VLSI) design.

# **SPORTS ACHIVEMENTS**



#### Unyielding Spirit on the Field: Kho-Kho Runners-Up Shine at TEJAS-2024

Runners-Up but True Champions! 🕈

V. Sai Teja (22P65A0419), Srikanth (21P61A04G5), and Akash (23P610A436) showcased exceptional grit and skill at the TEJAS-2024 Kho-Kho Championship, bringing pride to our college with their remarkable performance.

#### Dominating the Field: Kho-Kho Champion at TEJAS-2024

M. Siri (22P61A04B7) emerged as a standout performer, claiming the winner's title at the TEJAS-2024 Kho-Kho Championship. With unwavering focus and relentless determination, she dominated the field, inspiring everyone with her exceptional skill and sportsmanship.





#### Dominating the Court: Throw Ball Champion at Kurukshetra-2025

Bhargavi (24P61A04B3) played a pivotal role in leading the VBIT Women's Throw Ball Team to a resounding victory at the Kurukshetra-2025 National Level Sports Fest. With precision, power, and unwavering determination, she dominated the court, earning the winner's title and bringing pride to the team and college.

### Nirantazı

# FACULTY CERTIFICATIONS

We proudly recognize the relentless pursuit of academic growth and excellence demonstrated by our faculty through the successful completion of NPTEL certifications. Their commitment to continuous learning and subject mastery sets a powerful example for students and peers alike. Congratulations to:

#### National Programme on Technology Enhanced Learning (NPTEL)

S.No	Names	S.No	Names
1.	Ms. Pushpa	5.	Mrs. T. Jyothsna
2.	Mr. D. Chandra Sheker	6.	Mr. L. Rajeshwar Reddy
3.	Swathi	7.	Miss. Supriya
4.	Mrs. P. Sreevani		

# FACULTY CERTIFICATIONS

We take immense pride in congratulating our esteemed faculty members who have successfully completed the Faculty Development Program (FDP), showcasing their unwavering commitment to continuous learning and academic excellence. Their dedication to upskilling not only enriches their professional journey but also significantly enhances the learning experience of our students. Kudos to:

S.No	Names	S.No	Names
1.	Dr. V. Sharmila	6.	Mrs. Supriya
2.	Dr. G. Bhaskar	7.	Mrs. D. Kirtana
3.	Mr. P. Vidya sagar	8.	Swathi
4.	Mrs. Y. Roji	9.	Mrs. T. Jyothsna
5.	Mrs. B. Divya		

#### Faculty Development Programme (FDP)

# **Academic Topper's**

#### Sophomore Year



Jella Pravalika 23P61A0469



23P61A0406

"Congratulations, *JELLA PRAVALIKA (23P61A0469)* and *ANGALA NAVYA (23P61A0406)*, on your outstanding achievement! Your dedication and hard work have truly paid off."

#### Junior Year

"Kudos to *MANCHANA DHANALAXMI (22P61A04A0)* and *BANDARAPU JAHNAVI (22P61A0419)*, the toppers for maintaining stellar performance and rising above challenges! Your dedication truly stands out."



Manchana Dhanalaxmi 22P61A04A0



Bandarapu Jahnavi 22P61A0419

#### Senior Year



Arepally Sai Priyamsha 21P61A0404



Vecha Rishima 21P61A04H7

"Heartfelt congratulations to *AREPALLY SAI PRIYAMSHA* (21P61A0404) and *VECHA RISHIMA* (21P61A04H7), the toppers on finishing strong! Your academic journey sets a great example for those who follow."

Your dedication and excellence inspire us all. Keep shining and achieving great things...!

# **PROJECT EXPO**



Supervisor- Dr. Y Srinivas, Professor

### FREQUENCY ADAPTABLE SINGLE BAND ANTENNA FOR WIRELESS APPLICATIONS

A compact, frequency-adaptable antenna operates across Sband, Wi-Max, Wi-Fi, 5G sub-6-GHz, and ITU-band using a stub-loaded circular radiator on a 0.254mm flexible substrate. Its design ensures stable radiation patterns and wide bandwidth, ideal for radar, satellite, and wireless communications.

> M. Harika (21P6A04A7), K. Snehitha (21P61A0496), M. Vijay Kumar (21P61A04B6)



Supervisor-MsT.Sravanti, Assistant Professor

#### Real-Time Hand Gesture Recognition for Video Control

This project introduces a real-time hand gesture recognition system for video control using OpenCV and MediaPipe. It enables touch-free playback commands like play, pause, and volume control, functioning effectively in varied lighting and environments, making it ideal for smart TVs, media players, and assistive tech.

E. Ramchander (21P61A0452), G. Nikhil (22P65A0403), J. Sai Karthik (18P61A0487)



### Automatic Medical Dispatcher System Using IOT In Rural Areas

The Anytime Medical Machine (AMM) is an IoT-based system for rural areas that collects patient data (temperature, pulse rate, SPO2) and sends it to doctors for remote consultation via telemonitoring. The doctor analyzes the data and prescribes medicine, which is then dispatched through the AMM

Supervisor- Mr. K Prashanth, Assistant Professor

D. Poojitha (22P65A0401), C. Akshitha (21P61A0432)



#### Unique card for Multiple bank accounts

This Smart Card integrates multiple bank accounts into one secure platform, using NFC, biometric authentication, and blockchain for enhanced security. It allows seamless account switching via a mobile app or touch interface, with real-time balance updates and compatibility with ATMs and POS terminals.

Supervisor-Mr.B.SriKrishna,AssistantProfessor



# **PROJECT EXPO**



#### ImageAlertHomeSecuritySystemand Appliance Control Using IOT

The Image Alert Home Security and Appliance Control System uses IoT-enabled cameras for real-time intruder alerts, motion detection, and Al-based facial recognition for security. Users can remotely monitor their home and control appliances like lights and air conditioners through a mobile app, optimizing energy usage with automation features based on occupancy and environmental conditions.

Supervisor- MS. T Sravanthi, Assistant Professor

A. Navya (21P6A0401), B. Gowrishankar (21P61A0424), B. Naveen (18P61A0409)



#### DESIGNINGELECTRONICBOXTOAVOID EXAM PAPER LEAKAGE

This project proposes a smart, secure embedded system using RFID, GSM, keypad PIN verification, and facial recognition (via ESP32-CAM) to prevent unauthorized access to examination papers. It functions as a digital lockbox, ensuring materials are accessed only through multi-level authentication, with alerts sent to authorities in case of a breach attempt.

> M. Srija (21P61A04A6), N. Vaishnavi (21P61A04C1), M. Nikhil (21P61A04A3)



Supervisor-Mr.D.Chandrashekar, Assistant Professor.

#### Sign Language Detection using Computer Vision and Machine Learning

This project aims to empower the deaf community by developing a real-time sign language detection system using machine learning. Leveraging computer vision, the system translates hand gestures and movements into text or speech, enabling independent communication without the need for translators.

> M. Sai Prasad (21P61A04B3), M. Varun (21P61A04B8), N. Uday Kumar (21P61A04C0)



Supervisor-Ms.P.Sreevani, Assistant Professor

### Interactive AI Companion: A Personalized Virtual Assistant

This project presents a low-cost, remote-controlled syringe pump using NodeMCU V3 Wi-Fi for healthcare applications. It enables medical professionals to control fluid delivery wirelessly, adjusting the DC motor to achieve accurate flow rates. The system enhances telemedicine capabilities, offering an efficient solution for rural healthcare settings.

K. Nikhil Kumar 21P61A0494, K. Kushal Reddy 21P61A0487, N. Rahul Goud 21P61A04C2

# **PROJECT EXPO**



Supervisor-Ms.P.Sreevani, Assistant Professor

### Interactive AI Companion: A Personalized Virtual Assistant

This project develops a voice-controlled desktop assistant using AI for hands-free interaction with applications, web browsing, and content generation. It features voice commands, real-time web interaction, and script writing, enhancing productivity and user engagement.

P. Kashyap Raj (21P61A04D9), P. Venu (21P61A04E4), S. Tarun (21P61A04F2)



INNOVATIVESOLARPANELSTRUCTUREFOR IMPROVED AREA UTILIZATION AND PERFORMANCE

This study introduces a flexible solar solution using hexagonal panels and ESP32 microcontrollers for efficient energy capture without tracking systems. The cylindrical design maximizes sunlight exposure, while IoT-enabled monitoring ensures optimal performance for diverse applications.

> S. Mounika (21P61A04F5), P. Pavanteja (21P61A04D7), SK. Rahman (21P61A04F6)



Supervisor-Mr.P.VidyaSagar, AssociateProfessor.

#### AdvancedwarfieldspyingrobotUsingIOT Technology

The Advanced War Field Spying Robot provides secure surveillance in hazardous areas, reducing human risk through remote monitoring and control. Equipped with sensors and wireless communication, it detects obstacles, threats, and transmits real-time visual data for effective reconnaissance.

> V. Nikitha (21P61A04H3), U. Arunsai (21P61A04H2), T. Sreekanth (21A61A04G5)



Supervisor-Ms.D.Kirthana, AssistantProfessor.

#### ENERGY GENERATION FROM BIOWASTE WITHSEEBECKEFFECTANDUTILISATION WITH IOT

This project converts bio-waste heat into electricity using Seebeck and Peltier effects, bypassing waterdependent systems. IoT integration enables real-time monitoring, predictive maintenance, and remote access, supporting sustainable energy generation and waste management.

P. Lasya (21P61A04D3), Q. Varshini (21P61A04D2), R. Snigdha (21P61A04E9)

# **PHOTO GALLERY of PROJECT EXPO**











Congratulations Batch 2021 - 2025!





# **Events**

#### ADVANCED MACHINE LEARNING ALGORITHMS AND EDGE AI

On 7 January 2025, the ECE Department conducted an FDP on Advanced Machine Learning and Edge Al, featuring hands-on sessions that encouraged faculty to enhance teaching and research. The program received positive feedback for its practical approach and relevance to emerging technologies.





#### HANDS-ON RTL DESIGN AND FPGA PROTOTYPING

On 7th March 2025, the Department of Electronics and Communication Engineering organized a hands-on workshop focused on RTL Design and FPGA Prototyping. The session equipped students with practical skills in digital system design using Verilog/VHDL and FPGA development boards, guiding them through the complete design cycle. This initiative effectively bridged academic learning with real-world applications, fostering innovation and technical competence among participants.

#### 5 DAY HANDS ON FACULTY DEVELOPMENT PROGRAM ON VLSI SOC DESIGN & VERIFICATION WITH RISC-V

The Department of ECE, in association with TASK and Maven Silicon, organized a 5-day hands-on Faculty Development Program on VLSI SoC Design and Verification on 22nd June 2024. The program focused on RISC-V architecture, FPGA implementation, and verification methodologies, with practical sessions using Cadence, Synopsys, Xilinx Vivado, and open-source RTL-to-GDS tools.



# **Events**

#### **PCB DESIGN WORKSHOP**

Department of Electronics The and Communication Engineering conducted a PCB Design Workshop on 20th July 2024, introducing students to the complete PCB design and fabrication process using industry-standard EDA tools. Students gained hands-on experience from schematic creation to generating Gerber files, enhancing their skills in electronics prototyping and hardware development.





#### **INDUSTRIAL VISIT TO CSIR-NGRI**

The Department of ECE organized a one-day industrial visit to CSIR-NGRI on 27th September 2024, where students explored cutting-edge geophysical research and advanced lab technologies. Interactive sessions with scientists highlighted how science addresses real-world Earth challenges, deepening students' interest in electronics, communication systems, and sensor technologies.

#### VALEDICTORY OF FDP ON EMBEDDED SYSTEMS DEVELOPER

The Department of ECE held the valedictory session of the Faculty Development Program on Embedded Systems on 12th November 2024. The FDP focused on embedded system design, including microcontrollers, RTOS, IoT, and programming in C, Python, and MATLAB, with hands-on training on platforms like ARM Cortex, Raspberry Pi, and FPGA systems to equip faculty with industry-relevant skills.



# **Events**

#### TECH TALK ON COMPUTER VISION FOR AUTONOMOUS

On 8th February 2025, the Department of ECE organized an insightful Tech Talk on " computer vision for autonomous systems". This explores Fundamentals of Computer Vision, Understanding image processing, object detection, and feature, Autonomous Navigation, Deep Learning & AI Models, Sensor Fusion, Real-World Applications.





#### **REMOTE PILOT TRAINING ORGANIZATION (RPTO)**

of Electronics The Department and Communication Engineering organized an industrial visit to Dhaksha Drone Remote Pilot Training Organization on 19th February 2025. The visit provided valuable insights into drone technology and remote pilot certification, emphasizing their applications in surveying and geospatial data collection. Students learned about the efficiency and advantages of drones.

#### **INDUSTRIAL VISIT BSNL:**

The students of ECE visited the BSNL GHATKESAR Exchange on September21 as part of their academic curriculum. The visit was aimed at providing the students with hands-on experience and knowledge about the latest technologies used in telecommunications



# PLACEMENTS

### Infosys

# Infosys

Infosys has recruited 7 ECE students, showcasing the strength of our academic curriculum and the Placement Cell's support. Congratulations to the selected students for securing positions at a leading IT firm!

### Collabera

Collabera has offered placements to 13 ECE students, highlighting the industry alignment of our programs. Congratulations to the selected candidates on this achievement!

# SkillForge

# SkillForge

SkillForge has onboarded 12 ECE students, highlighting their strong technical skills and adaptability. Congratulations to the selected students on this achievement!

#### Elewayte

Elevate has selected 9 ECE students, showcasing the caliber and industry readiness of our graduates. Congratulations to the selected students on this achievement!

# Glewayte

Collabera



### BSA

A total of 41 ECE students have been placed at BSA Corporation, highlighting the technical proficiency and preparedness of our graduates. Congratulations to all selected students on this remarkable achievement!

### ADVI

Advi has recruited 3 ECE students, reinforcing our strong placement portfolio. Congratulations to the selected students on this accomplishment!





# PLACEMENTS

#### Kernex Microsystems



Kernex Microsystems has recruited 7 ECE students, reaffirming the technical excellence and industry readiness of our graduates. Congratulations to the selected students on this achievement!

# **INTERNSHIP'S**

#### Visiontek Enabling Connectivity

Congratulations to the 7 students from the Department of ECE for securing internships at Linkwell Telesystems Pvt Ltd, a proud subsidiary of Visiotech—Enabling Connectivity! This achievement highlights the department's strong academic foundation and the unwavering support of the Placement Cell in bridging the gap between academic learning and real-world industry exposure.



# "Message from the Heads of Clubs"



"Driven by the goal to bridge knowledge and innovation, I've focused on connecting academics with real-world applications through events and workshops. I'm excited for the continued growth and collaboration within our society."

Sripathi Nihanth Reddy (21P61A04G3) Chair Person, ComSoc | IEEE VBIT SB

"Passionate about innovation, the Robotics Club at VBIT empowers students to create impactful robotic solutions with the support of our institution and a stateof-the-art Robotics Lab. Let's build the future, one robot at a time!"





"As Chairperson of Virinchi, I had the privilege to lead Udbhav 2K25, VBIT's first student fest, uniting culture, esports, and sports. I encourage every student to participate and contribute to our vibrant campus life."

Karadula Revanth (21P61A0480) Chair Person, Virinchi - VBIT

V. V. Hemanth (21P61A04H8) Chair Person. Robotics

"Leading from the front, I amplified student voices and connected our college with government and community. Backed by my institution, I championed responsibility and initiatives that enhanced student engagement and impact."

> Akshith Reddy Yedulla (21P61A0416) Chair Person, Dyuthi NSS - VBIT



# FRAMES of 2024-25



# **OUR TEAM**



Mr.P.Sandeep Kumar Faculty Coordinator



Mr.V. Rajasekhar Faculty Coordinator



Mr.P.Vidya Sagar Faculty Coordinator



N PRANAY Designer Lead



SREEJA Copy Editor Lead



HARSHA Resource Lead



SUNIDHI Coordinator Lead



NAVYA Resource Team



SREELEKHA Resource Team



MADHURI Copy Editor Team



HARSHAL Copy Editor Team



RAMAKANTH Designer Team

Work on communication and presentation skills. which are concial for both academic and Career Sulless.

Jack of all hades are master of none; Sometimes bether than marter of "Every higual you send ents the world carries the potential to spark real change"

The goal of Engineering is to

solve real world Problems,

not just to build complex systems

Work hard en silence. Let the noise.

JEL WASK RAJEL WESOL . Both 不認不 がえのつい もういび みも もれちえ もない eénssin zoess.

The way to get started is goil talking and begin doing. Hardwork leads to success. र्डे के के

Actively participate in the learning process, monage Your time wisely, and take advartage dr Opportunities to devolop a solid academic fundation and valuette steills.

> your Life doen't get better by chance, it gets better by change

Engineering is the closest thing to mayic - chiat exists in the world.

ECE : where The creativity meets Technology, and The possibilities are endless.

Don't back step to face any challenge on your life.

Update your mind not lifestybalway Engineering is the tool to Convert your dreams

E → Excellent C-> chaiming E > Elegants We Engineers role the country with controlling the sensors of the public sates.

in Reality

Stay updated with current trends in Electronics and communications through online courses, certifications and tech Hogs.

(हैर्राये याग्तं र मं हु० สสภาพ์สสภาย สีสาคาว่อ"

The process of Learning requires not only hearing and applying but also forgetting and then remembering again

Be the change that want to see in the world."

Life skills ove impostant to live life. Engineering is the magterkey to open the technical words

Life slike a digital logic Oseilations between lows and high from ground to VCC. curry state date a vital stale Be bold, don't endor in systems.

20 Martin Mart

















