VAISHNAVI GASTI

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Education

BMS Institute of Technology and Management   **Class of 2026**

Bachelor of Engineering in Electronics and communication: (CGPA: 9.08)

EXPERT PU College, Valachil   **Class of 2022**

PCMC : (Percentage: 93.5)

KLE Society's Smt C B R School, Athani   **Class of 2020**

CBSE Class 10 : (Percentage: 84.4)

Skills

- Microcontrollers (Arduino, Esp32, Raspberry Pi, ARM Cortex, PIC) | PCB | FPGA & VLSI (Verilog, VHDL, Xilinx, CMOS logic design) | Instrumentation | Prototyping & Fabrication | RF circuits | HFSS | CST
- Python | C/C++ | MERN Stack (Express.js, React.js, Node.js) | MySQL | REST APIs
- Microsoft Power BI | Blender | MATLAB | Machine Learning
- Teamwork | Communication | Leadership | Problem Solving

Projects

Cosmic Radiation Detection using SDR & CNN

Designed a system to detect cosmic signals using Software Defined Radio (SDR). Extracted meaningful features from RF data and used a Convolutional Neural Network (CNN) to classify cosmic events such as solar bursts and galactic noise. The project combines principles of radio astronomy, DSP, and machine learning for low-cost space research applications.

SPOT – Automated Celestial Object Tracker

Built a real-time celestial tracking system using ESP32 and a two-axis motion control setup. Integrated live star coordinates from the Stellarium API and implemented laser-based pointing for precise tracking. Enhanced user interaction through a custom mobile app for seamless star selection and control.

Health Monitoring App using MATLAB & ML

Developed a MATLAB-based GUI app to monitor vital signs such as heart rate, blood pressure, and oxygen saturation. Utilized MATLAB's inbuilt machine learning tools to train models for anomaly detection and health risk prediction, offering basic real-time alerts for abnormal readings.

Research on Noise Modulation for Wireless Communication using FDM

Conducting research on a novel wireless communication technique that employs noise modulation within a Frequency Division Multiplexing (FDM) framework. This approach explores the use of intentionally structured noise-like carriers to encode information across multiple frequency bands, enabling simultaneous transmission of independent data streams.

Certifications

- MATLAB Chapter on Engineering Systems and Simulations – MathWorks
- Modern Digital Communication Techniques – MOOC courses
- Network Security and Block Chain – NPTEL

Experience

IEEE Photonics Society BMSIT&M – R&D Head   *October 2024 – Present*

Student Coordinator – MATLAB Chapter   *October 2024 – June 2025*