

MATHEWS V MANOJ

Electronics & Communication Engineering Student | AI & Embedded Systems Enthusiast
Kerala, India | mathewvmanoj8@gmail.com | +91 9188368960 | linkedin.com/in/mathews-v-manoj

PROFESSIONAL SUMMARY

Second-year ECE student with hands-on experience in embedded systems, digital hardware design, and real-time applications using Arduino, ESP32, and FPGA platforms. e-Yantra Regional Finalist skilled in VHDL/Verilog, machine learning, and IoT-based solutions. Aspiring GATE candidate with strong analytical and problem-solving skills.

EDUCATION

B.Tech in Electronics and Communication Engineering

CGPA: 9.33

Muthoot Institute of Technology and Science | 2024 – 2028

TECHNICAL SKILLS

Languages: Python, C, Embedded C, Verilog, VHDL

Tools: NumPy, Pandas, Arduino IDE, Xilinx Vivado

Concepts: Machine Learning (Basics), Embedded Systems, Digital Design, FPGA Programming, Real-Time Systems

PROJECTS

• Hazard & Fault Detection System with Real-Time Display on ZedBoard

- Designed a Verilog HDL-based system to detect hardware hazards and faults in real time.
- Integrated real-time status display on ZedBoard (Zynq-7000 FPGA) using onboard peripherals.
- Verified design via simulation testbenches; validated timing and fault-detection logic on hardware.

Tech: Verilog HDL, ZedBoard (Zynq-7000), Xilinx Vivado

• Spoilage Detection and Prevention System

- Engineered an IoT-based monitoring system using ESP32 and sensors for real-time spoilage detection.
- Implemented threshold-based alert logic for continuous parameter tracking and early prevention.

Tech: ESP32, Sensors, Embedded C

• Obstacle Avoidance Robot

- Built an autonomous robot using ultrasonic sensors for real-time obstacle detection and motor control.

Tech: Arduino, Embedded C

• Machine Health Prediction using Markov Chain

- Developed a probabilistic Markov Chain model to predict system state transitions for predictive maintenance.

Tech: Python, NumPy

CERTIFICATIONS

NPTEL – Robotics, Microsensors & Nanosensors (**Both Elite**) • NIELIT – Python, Embedded Systems

ACHIEVEMENTS

- e-Yantra Innovation Challenge – **Regional Finalist** (2025–26)
- National Road Safety Hackathon (2025) – **Stage 2/4**

POSITIONS OF RESPONSIBILITY

- Mathematics Club Coordinator, MITS