PARTHIBAN N

EMBEDDED ENGINEER

CONTACT

+91 7418949082

parthibanmr2@gmail.com

Thoothukudi

SKILLS

Embedded Development
- Embedded C
- Real-Time Embedded Systems
- FreeRTOS(Tasks,Queues, Semaphores, Scheduling)

Microcontrollers & Boards
- ESP32
- Arduino (UNO, Mega)

Communication Protocols
- UART
- SPI
- I2C

Hardware & Interfacing
- Sensors (Temperature, TDS)
- Servo Motors, Stepper Motors
- LCD, RTC, Buzzers

Design & Development Tools
- KiCad (PCB Design)
- Linux

IoT & Connectivity
- Firebase
- Telegram Bot API

Programming Languages
- C (Embedded) (learning)
- Python (Basic)

LANGUAGES
- Tamil
- English

SUMMARY

Embedded Systems and IoT Engineer with hands-on experience in microcontrollers, sensor integration, real-time systems, and computer vision. Built multiple end-to-end projects including a low-cost 3D printer, number plate detection system, and smart monitoring devices. Skilled in firmware development, hardware interfacing, FreeRTOS, and cloud-connected IoT systems. Seeking roles in Embedded Systems, IoT Development, or Hardware Engineering.

EXPERIENCE

VLSI Design Intern — Pantech Solutions
Duration: 1 Month
- Worked on digital circuit design and functional verification using simulation tools
- Gained exposure to VLSI design flow, logic design, and timing analysis
- Assisted in debugging and validating digital modul**es**

Embedded Systems & FreeRTOS Intern — Senzr AIOT Partner
Duration: 1 Week
- Developed embedded applications using Embedded C and FreeRTOS
- Implemented task scheduling, inter-task communication, and resource management
- Gained practical exposure to real-time system design and debugging

Patch Antenna Design Workshop (1 Day)
- Participated in intensive workshop on antenna design principles and RF fundamentals

ACHIEVEMENTS

- Participated in multiple **district- and state-level hackathons**, solving real-world engineering problems
- Successfully delivered **end-to-end embedded and IoT projects**, from hardware interfacing to firmware integration
- Demonstrated **strong team collaboration and problem-solving skills** in group-based technical projects

EDUCATION

B.E .Electronics and Communication
2022- 2026
Grace College of Engineering

Higher Secondary Education
(12th Standard) 2022
St. Mary's Boys Hr. Sec. School

Higher Secondary Education
(10th Standard) 2020
St. Mary's Boys Hr. Sec. School

CERTIFICATIONS

- **Basic Linux Course -** Linux Foundation
- **FreeRTOS** - Senzr AIOT Partner
- **VLSI intern** - Pantech Solutions
- **Patch Antenna Design and Testing** - Grace college of engineering
- **Smart Parking system -** Hackathon 2025 Thoothukudi District Police
- **ADAS ECU Simulation and Testing -** Tamilnadu Skill development Corporation Naan Mudhalvan Scheme
- **Low-cost 3D Printer** - Grace college of Engineering
- **Automatic Fish Tank Monitoring System** - Grace college of Engineering

PROJECTS

Low-Cost 3D Printer (Academic Project)
Tech Stack: Arduino Mega, Embedded C, Stepper Motors, RAMPS

- Designed and developed a cost-effective 3D printer from scratch
- Implemented stepper motor control, heating system, and extrusion logic
- Developed firmware for motion control and calibration
- Documented mechanical and electrical system design

Automatic Fish Tank Monitoring System (Academic Project)
Tech Stack: ESP32, Embedded C, Sensors, LCD, RTC

- Developed a smart monitoring system using ESP32
- Interfaced DS18B20 temperature sensor, TDS sensor, servo feeder, and RTC
- Implemented automated alerts and control logic
- Displayed real-time parameters on LCD

Automatic Vehicle Number Plate Detection System
Tech Stack: OpenCV, Python, Firebase, Telegram Bot API

- Built a real-time vehicle number plate recognition system
- Implemented image processing using OpenCV
- Integrated Firebase for data storage and Telegram bot for instant alerts

Smart Parking System with Mobile App (District Level Hackathon)

- IoT-based parking slot tracking system
- Designed mobile app interface with real-time availability

ADAS ECU Simulation (Naan Mudhalvan Hackathon)

- Simulated ECU model for ADAS features
- Demonstrated automotive electronics and control system design