

# KANNAN RAJA

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## Embedded Systems Engineer

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## Summary

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Motivated and results-driven Embedded Systems Engineer with hands-on experience in automotive and IoT systems. Proficient in microcontroller programming, communication protocols, and system testing. Adept at collaborating across teams to deliver high-quality solutions for embedded applications.

## Technical Skills

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Programming Languages: C, C++, Python, CAPL Scripting, Python, Linux, Assembly language for 8051.

Software: STM32Cube, CANoe, R&S Test Suite, Tekscope by Tektronics, Xilinx, Keil Microvision, PyCharm, Visual Studio Code, ArduinoIDE.

Communication Protocols: CAN, LIN, Automotive Ethernet, I2C, RS232, SPI.

## Professional Experience

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### APTIV | Test Engineer Intern

July 2023 – June 2024

- Conducted conformance testing for Automotive Ethernet in Layer 1.
- Implemented ECU using Raspberry Pi.
- Performed application-level testing of infotainment systems.
- Automated power supply testing using RS232 communication.

### South Central Railway | Intern

December 2019 – January 2020

- Evaluated the functionality and efficiency of alternators in passenger coaches.

### EmCog Solutions | Intern

June 2020 – July 2020

- Developed a Battery Management System using Raspberry Pi.

## Projects

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### **Smart Plant Care System (Environmental Monitoring)**

- Developed a smart system for plant care using STM32, sensors (soil moisture, light, temperature), and automated systems for watering and lighting.

### **RPM Control using CAN Protocol based on Engine Temperature**

- Designed a model to control car speed using the CAN protocol.

### **DSM-based Smart Switchboard using Raspberry Pi**

- Created an IoT model to optimize household power consumption.

### **Development of Real-time Dehazing Technique for Underwater Images**

- Developed a CNN-based model to enhance underwater image quality.

### **Driver Circuit for BLDC Motor using MOSFET and Raspberry Pi**

- Generated waveforms for controlling a Brushless DC motor.

### **Real-Time Embedded System for Smart Traffic Light Control and Vehicle Detection**

- An STM32-based real-time system for dynamic traffic light management, vehicle detection, and emergency vehicle prioritization.

## Education

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### **Master of Technology in Embedded Systems**

Vellore Institute of Technology | September 2022 – June 2024 | CGPA: 8.4

### **Bachelor of Technology in Electrical and Electronics Engineering**

B.S. Abdur Rahman Crescent Institute of Science and Technology | June 2017 – May 2021 | CGPA: 8.6

## Soft Skills

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- Communication Skills | Team Player | Multitasking | Critical Thinking | Problem-Solving | Time Management

## Languages

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- English | Tamil | Telugu | Hindi