

KIRUBAKAR M

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Education

Chennai Institute of Technology, B.E. Electronics and Communication Engineering

2022 - 2026

- CGPA: 7.8/10

Professional Experience

Bharat Sanchar Nigam Limited, telecommunications and networking

May 2023 – Jun 2023

- practical exposure to key areas of telecommunications and networking, including real-time infrastructure and equipment handling. It covers Broadband & Internet Services, and wireless technologies. Interns also learn about Mobile Communication and Switching & Transmission systems.

EPSSAT Manufacturing pvt ltd, IoT for improved efficiency and safety in industrial systems

Nov 2023 – Dec 2023

- Developed an IoT-based system using LoRa and Wi-Fi for long-distance monitoring and control in industrial environments. Integrated a strain gauge with ESP32 for real-time valve maintenance and remote operation. Implemented wireless torque and thrust measurement to monitor mechanical stress in an oil cannon, enhancing safety and efficiency.

EPSSAT Manufacturing pvt ltd

- Gained hands-on experience in PCB design, including layout planning and component placement. Learned microcontroller programming, focusing on ESP32 for IoT applications. Explored debugging techniques to identify and resolve hardware and software issues effectively.

Projects

OBJECT DETECTION USING PYTHON

Project 1

- Developed an object detection system using Python to identify and label objects in real time. Implemented detection algorithms using OpenCV and pre-trained models like Haar cascades. The system accurately detects objects in images or video streams and displays their names with bounding boxes. Smart Agriculture System.

Smart Agriculture System

Project 2

- Designed a Smart Agriculture System utilizing IoT sensors to monitor various parameters such as soil moisture, temperature, humidity, and light intensity, providing farmers with real-time data to make informed decisions for optimal crop management and improved agricultural productivity.

Gas/Water Leakage Detection System

- ESP32, water leakage detection, gas leakage detection, IoT, real-time monitoring, smart safety systems
- gas/water pipelines using IoT-based sensors and ESP32 microcontroller. The system, built on the ESP32 microcontroller, integrates water and gas sensors, a GSM module, flow sensor and a mobile app for notifications, ensuring high accuracy and minimizing false alarms.

Skills

- **Programming Languages:** Java, C, C++
- **IoT & Hardware:** Digital Circuits, Signals and Processing, Raspberry Pi Projects
- **Specialized Skills:** Image Processing, Wireless Communication, IoT Sensor Integration

Certifications

- NPTEL
- Cisco
- Embedded C Programming