

# Maadesh A

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## EDUCATION

### Vellore Institute of Technology, Chennai

B.Tech. in Electronics and Communication Engineering; CGPA: 9.18

Chennai, India

Sept. 2022 – May 2026

### Christ International School - ISC

Class XII; Percentage: 87.6%

Thanjavur, India

2022

## TECHNICAL SKILLS

**Languages:** C, C++, Embedded C, Java

**Embedded Systems:** Microcontrollers, Firmware Development, Peripheral Interfacing

**Protocols:** I2C, SPI, UART, GPIO

**Tools:** Arduino, Git, Serial Debugging

**Web / Backend:** JavaScript, React, Node.js, Express.js

**Databases:** PostgreSQL, MongoDB, Firebase

## EXPERIENCE

### R&D Intern – Samsung Prism

Oct. 2024 – Oct. 2025

Remote

- Worked on persistence over ORB-SLAM3 by implementing anchor saving, restoration, and object rendering for accurate 3D localization across SLAM session restarts.
- Enabled use-cases like device sleep-wake cycles in SLAM-based applications.
- GitHub Repo: [ORB SLAM3 PERSISTANCE](#) | Certificate: [View](#)

### Flutter App Developer Intern – Anicha Digital Infrastructure

May 2024 – July 2024

Remote

- Built a Flutter-based app platform for driving school aggregation as part of a team project.
- Designed system architecture and implemented classes using Object-Oriented Programming principles.
- Focused on backend and system design contributions rather than UI development.
- Certificate: [View](#)

## PROJECTS

### AS7343 Arduino Library | Embedded C++, I2C, Arduino

Mar 2025

- Developed a low-level Arduino driver for the AMS AS7343 spectral sensor using register-level I2C communication.
- Implemented 8-bit register access, 16-bit little-endian data reads, and efficient burst reads for all spectral channels.
- Designed AVR-safe Wire usage with repeated START conditions for reliable data acquisition.
- GitHub: [Repo](#)

### Embedded Attendance Monitoring System | Embedded C++, RFID, LCD, Keypad, Firebase

Jan 2025

- Designed a microcontroller-based attendance system using RFID authentication with LCD and keypad user interface.
- Integrated RFID scanner, LCD display, and keypad using Arduino/vendor libraries with GPIO and serial communication.
- Used a Firebase client library to transmit real-time attendance data from embedded firmware to the cloud backend.
- GitHub: [Repo](#)

### Rat in a Maze Game | C++, BFS, Data Structures

Dec 2024

- Built a C++ pathfinding puzzle game where a rat navigates a grid-based maze with blocked cells.
- Implemented Breadth-First Search (BFS) to compute the shortest path from start to destination.
- Developed a custom linked-list-based queue in C++ to support efficient BFS traversal.
- GitHub: [Repo](#)

## ACHIEVEMENTS & CERTIFICATIONS

### NPTEL – Data Structures and Algorithms (Certificate)

**District First:** Scored 100/100 in Mathematics (ISC Class XII)

**District Second:** ICSE Class X Board Exams