

Shantanu Ramanujapuram

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Student with experience developing applications for web, mobile and embedded systems having a strong background in automation, machine learning and electronics engineering

Experience

Paid Project Intern | Indira Gandhi Center of Atomic Research | Hybrid **Feb 2024 – July 2024**

- Designed and fabricated a prototype of an IoT Smart Energy Meter from scratch
- Created data transmission network layer converting **GSM/GPRS** to **WAN** (internet + REST API web services)
- Recorded data in a **MySQL** database and built interfaces for web in **React** and mobile in **React Native**

Software Development Engineering Intern | Baton Systems Ltd | Onsite **June 2024 – July 2024**

- Streamlined node registration for the notarization service in Core Forex settlements team
- Added comprehensive unit tests using **JUNIT5** for multiple microservices
- Introduced to test-driven development and high-level design of webservices in **Java** and **Spring Boot**.

Projects

Sentinel Smart Wearable | Micro-Python, NodeJS, React Native, Embedded-C **January 2024**

- Engineered IoT smart wearable capable of assisting visually impaired people
- Integrated ESP32 Camera, TF Luna Mini **LiDAR** and **haptic motors** in a R-pi Pico microcontroller
- Performed **AI frame analysis** for content using mobile net model and edge impulse, **response time - 200ms**.
- Won **2nd Place** at **SRM Project Expo**, **1st place** at **BIT, Bengaluru Project Expo**

Paradox Mobile Clients | React Native, TypeScript, Expo **April 2024**

- Super Coordinator – Web Operations, IIT Madras BS Degree's Cultural Fest Paradox 2024.**
- Developed **two android applications** for Paradox 2024, used to track **event registration** and **accommodation**
- Used by volunteers to track the footfall of **2000+ students**, with extremely fast application response times

Multi-Terrain Hexapod Robot | C++, NodeJS, Python, Electron **September 2024**

- Designed** robot telemetry systems which use **LoRa WAN, TCP** and **UDP** communication streams
- Built an Electron application** to act as the robot's controller to give movement instructions to the robot
- Integrated LiDAR**, IR Camera, on board sensors and networking into **ST-Discovery-L475E-IOT01A** Firmware.
- Top 20 finalist, India - AICTE ARM Inventors Challenge 2024**

Technical Skills

WebDev: React Web, React Native, MongoDB, REST APIs in Express, Flask, Springboot, MySQL

Embedded: Micropython, Arduino, Driver development for STM32, Mbed OS

Languages: JavaScript, Python, C#, Java, Typescript, C/C++

DevEnv: Bash scripting, git, MS-batch, PowerShell Automation,

Others: OpenCV, LTSpice, Pandas, Scikit, Altium, ffmpeg

Education

IIT Madras BS Degree | Remote | CGPA: 7.66 **June 2022 – Present**

- Foundational course in Data Science | June 2022 – December 2023
- Diploma in Data Science | January 2024 – Present
- Courses: Machine Learning Theory, ML Fundamentals, Business Data Management

SRM IST Ramapuram | Chennai, Tamilnadu | CGPA: 9.46 **August 2022 – Present**

- Electronics and Communications Engineering
- Achievements: SRM Project Day 2024 - Runner Up, Winner BIT Project Expo (April 2024)

The PSBB Millennium School Gerugambakkam | Chennai, Tamilnadu **June 2007 – June 2022**

- Computer Science and Mathematics | **AISSE: 465/500 | AISSCE: 449/500**