# Shantanu Ramanujapuram shantanuramanujapuram@gmail.com | C:\Users\Admin\Desktop\githubCat.png <https://www.github.com/shanTen> | [shantanu.ramanujapuram.com](https://shantanu.ramanujapuram.com)

# Experience

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

* Developed a full-cycle prototype of an **IoT Smart Energy Meter**, encompassing design, hardware fabrication, and functional implementation
* Architected a data transmission network layer integrating **GSM/GPRS** communication with WAN infrastructure, implementing **REST API** web services for seamless connectivity
* Engineered comprehensive **full-stack** data management solution using **Express.js**, **React**, **Next.js**, and **React Native**, with **MySQL** database integration

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

* Integrated the **node registration** process for the **Core Forex** settlements team's **notarization service** into the admin dashboard, improving system efficiency and reliability
* Implemented comprehensive **unit testing** across multiple microservices using **JUnit5**, enhancing code quality and system robustness
* Gained expertise in **test-driven development** (TDD) and high-level architectural design of web services using **Java** and **Spring Boot**

# Projects

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

* Developed an innovative **IoT smart wearable** assistive device for visually impaired individuals
* Integrated ESP32 Camera, TF Luna Mini LiDAR, and haptic motors with Raspberry Pi Pico microcontroller, creating a unified sensing and feedback system
* Performed AI frame analysis using **MobileNet** and **Edge Impulse**, achieving a **97.5% reduction** in object detection response time from **2000ms** to **50ms**.

[**Paradox Mobile Clients**](https://github.com/ShanTen/ParadoxSR) **|** *React Native, TypeScript, Expo* **April 2024**

* Served as **Super Coordinator** for **Web Operations** during the Cultural Fest of IIT Madras’ BS Degree.
* Developed **two** **custom** **android applications** for event management, enabling **event registration** and **accommodation management**
* Streamlined event registration, reducing processing time by **99.7%** (from **30 seconds** to **less than a second**)
* Supported volunteer management for an event with **over 7,000** student participants

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

* Designed advanced **robot telemetry systems** utilizing **LoRa WAN**, **TCP**, and **UDP** communication protocols to enable **robust data transmission** and remote connectivity
* Developed a comprehensive control ecosystem including an **Electron application** and a full-featured **REST API** to facilitate seamless **system integration** and **robotic control**
* **Integrated LiDAR**, IR Camera, on board sensors and networking into **ST-Discovery-L475E-IOT01A** Firmware.
* Ranked among the **top 20** finalists in India – AICTE ARM Inventors Challenge 2024

# Technical Skills

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

**Web:** React Web, React Native, Express.js, Flask, Spring Boot, MySQL, MongoDB

**Embedded:** MicroPython, Arduino, Driver development for STM32, Mbed OS

**Scripting/Tools:** Bash, Batch, PowerShell, Git, Docker, GitHub Actions

# 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**