Shantanu Ramanujapuram

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Experience

Embedded Systems Intern | Indira Gandhi Center of Atomic Research | Hybrid **Feb 2024 – Mar 2025**
- Architected a **low-bandwidth data transmission network layer using GSM/GPRS** over 4G, **reducing bandwidth usage by 98%** while ensuring **higher reliability** in remote locations.
- Engineered and wrote comprehensive **full-stack** data management solution using **Express.js**, **React**, **Next.js**, and **React Native**, with **MySQL** database integration
- Implemented **OTA** (Over the Air) update system for remote firmware changes.

Software Development Engineering Intern | Baton Systems Ltd | Onsite **June 2024 – July 2024**
- Gained expertise in **test-driven development** (TDD) and high-level architectural design of web services using **Java** and **Spring Boot**
- Integrated the **node registration** process for the **Core Forex** settlements team's **notarization service** into the admin dashboard using **React.js.**
- Implemented comprehensive **unit testing** across multiple microservices using **JUnit5**

DevOps and Web Engineering Lead | IITM Paradox | Hybrid **Mar 2024 – June 2025**
- Led the design, development, and deployment of **mobile applications** for **Paradox 2024 and 2025**.
- Oversaw the **release of 5 event management** apps to the Play Store as **Deputy Core – WebOps** for Paradox 2025.
- Managed the **CI/CD pipeline** for the Central Portal Application on **AWS** using **GitHub Actions**, ensuring seamless updates and deployments.
- Supported end-to-end fest management for an event with **more than 8,000 participants**.

Projects

Sentinel Smart Wearable | *MicroPython, NodeJS, React Native, Embedded-C* **January 2024**
- Developed and built an **IoT smart wearable** voice assist device for visually impaired individuals
- Performed Image frame analysis using **MobileNet** and **Edge Impulse**, achieving a **97.5% reduction** in object detection response time from **2000ms** to **50ms**.

Multi-Terrain Hexapod Robot | *C++, NodeJS, Python, Electron* **September 2024**
- Designed and built **robot telemetry system** utilizing **LoRa WAN**, **TCP**, and **UDP** communication protocols to enable **robust data transmission** and remote connectivity
- Developed a comprehensive control system including an **Electron application** and a full-featured **REST API** to facilitate seamless **system integration** and **robotic control**
- **Top 20 Finalist** in India at AICTE ARM Inventors Challenge 2024; **Winner** - Robotics Category at **SaRaM 2025**.

Technical Skills

Languages: JavaScript, TypeScript, Python, C#, Java, C, C++
Web Development: React.js, React Native, Express.js, Flask, Spring Boot, REST APIs
Databases: MySQL, MongoDB, PostgreSQL, Microsoft SQL Server
Scripting/DevOps: Bash, Batch, PowerShell, Git, Docker, GitHub Actions

Education

SRM IST Ramapuram | **Chennai, Tamilnadu** | **CGPA: 9.48** **August 2022 – Present**
- B.Tech - Electronics and Communications Engineering

The PSBB Millennium School | **Chennai, Tamilnadu** **June 2007 – June 2022**
- Computer Science and Mathematics | **10th - 465/500** | **12th - 449/500**

IIT Madras BS Degree | **Remote** **June 2022 – June 2025**
- Diploma in Data Science | January 2024 – June 2025