HARSHA KEERTHAN MUTHU KRISHNAN

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EXPERIENCE

MediaTek *Full Stack Developer Intern* MEDIATEK *May 2023 - Dec 2023*

- **Web development: Redesigned intranet websites** and integrated **SSL encryption using the MERN stack and CMS**, enhancing user interface and security for over 50 chip designers, thereby improving workflow efficiency by 30%.
- **DevOps:** Established a local version control system and **automated CI/CD pipeline, reducing deployment time by 75%** and significantly enhancing team collaboration.
- **Automation:** Developed **Python-based system to utilize RESTful APIs**, automating content synchronization across Drupal websites, ensuring zero redundancy and improving data update efficiency.
- Tech Stack: Python, SQL, PHP, HTML, CSS, JS, Drupal, React, Express & NodeJS, RESTful & JSON API, Agile practices

Continental Automotive *Embedded Software Engineer Intern* Continental *May 2022 - Aug 2022*

- **Engineered communication** between firmware and sensors by implementing UART interface to **reduced failure rates** to near zero using **Python**.
- **Demonstrated to Continental's Business Unit**, leading to successful production deployment and market launch.
- Used **3D motion technology** to capture machine learning data and stored it in **mongoDB** using **mqtt** for real-time analysis.
- Tech Stack: Python, C++, MQTT, CMake, ECal

PROJECTS

Book Store Management

- Developed an **Admin portal** for managing book records with full **CRUD functionality**, utilizing **REST APIs** to retrieve and display book details.
- Tech Stack: Java, Spring Boot, HTML, CSS, Thymeleaf Templates, Tomcat

TransitSafety Dashboard

- Analyzed bus driver datasets to compute safety scores using Python, improving data accuracy by 20%.
- **Visualized data analytics** using **Plotly and Dash frameworks**, through interactive dashboard.
- Tech Stack: Python, Pandas, Dash, plotly, pytest, Jira, GitLab

FlightLogger

- Developed a flight log management system with **NextAuth for OAuth, implementing role-based access control**, and leveraging **Next.js server actions** for efficient data handling.
- Tech Stack: Next.js 14, React, MongoDB, NextAuth.js, Tailwind CSS, Shadcn UI, TypeScript, Zod, Resend, Vercel

SITAtlas — Final Year Project

- Engineered a **web-based geospatial navigation system** using **Mapbox GL JS** to address wayfinding challenges in SIT's new Punggol campus, integrating point of interest (POI) data with **GeoJSON** for efficient spatial data management.
- Integrated an **AI-powered chatbot assistant** utilizing **OpenAI's GPT-4o model**, contextualizing responses with real time geospatial data for intelligent user interactions.
- Designed and implemented a **robust CI/CD pipeline** with **GitHub Actions**, automating **Docker** image builds, security scans, and deployments to **DigitalOcean** infrastructure while leveraging Next.js, React, and PayloadCMS for a full-stack solution.
- Nominated by professor for conference paper publication in the IEEE International Smart Cities Conference.
- Tech Stack: NextJS, NodeJS, MongoDB, Mapbox, PayloadCMS, GraphQL, NGINX, Docker, DigitalOcean

EDUCATION

Singapore Institute of Technology *Sept 2021 - Sept 2024*
B.Eng with First Class Honours in Computer Engineering
Specialisation in Intelligent Transportation Systems (Telematics)
GPA: 4.57

SKILLS

Python, C++, JavaScript, HTML, CSS, Tailwind CSS, PHP, MySQL, React, Node.js, CMS, NextJS, MongoDB, Docker, NGINX

CERTIFICATIONS

Google Specializations	Data Analytics, IT Automation with Python, IT Support Professional ↗
Cloud	Google Qwiklab Badge: Create and Manage Cloud Resources (GCP & Kubernetes)