

Nidharshan Vigneshwaram

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About Me

Software Engineering-focused Computer Science and Engineering undergraduate . I am passionate about turning ambitious ideas into scalable software solutions. With hands-on experience across modern full-stack frameworks, microservices, and database architecture, I enjoy diving deep into system internals and writing clean, efficient code. I am an enthusiastic fast-learner and a proud member of a championship-winning development team, dedicated to building high-impact products from the ground up.

Education

University of Moratuwa (UOM)

Mar 2024 – Present

B.Sc. Engineering (Hons), Computer Science and Engineering

Specialization: Integrated Computer Engineering , CGPA : 3.33 / 4.00

Core Modules : Software Engineering, Data Structures & Algorithms, Database Systems, Computer Networks

G.C.E. Advanced Level 2022(2023)

Z-Score: 2.5743 | Island Rank: 163

Technical Skills

- **Languages:** Python, C++, TypeScript/JavaScript, PHP, VHDL
- **Backend & Frameworks:** NestJS, Laravel, Ballerina (microservices)
- **Frontend:** React, Next.js
- **Databases:** PostgreSQL, MongoDB, Prisma ORM, SQL/SQLite
- **AI/ML & Data:** Machine Learning, data engineering (ingestion, cleaning, pipeline design), RL
- **Tools :** Git, Docker, Linux, Figma, ROS 2, Gazebo, RViz, MoJoco

Projects

Trash2Treasure – AI-based Waste Management System

[GitHub](#)

- Developed a corporate-level waste management platform that routes collected waste towards recycling or composting, winning **1st place** among 200+ teams from 22 universities at Devthon.
- Built the complete user booking pipeline—from request creation to final booking—using **TypeScript** and **NestJS**.
- Architected the relational database schema using **PostgreSQL** and **Prisma** ORM, containerized the application with **Docker**, and designed the admin portal frontend utilizing **Next.js**.

CrimePulse – Anonymous Crime Reporting Platform

[GitHub](#)

- Built an anonymous crime reporting platform designed to make it easier for people to report incidents without directly revealing their identity, while providing a centralized view of reported incidents.
- Developed the **React** and **TypeScript** frontend, integrating the **Google Maps API** to render a geographic heatmap of incidents pulled from a **MongoDB** database via a **Ballerina** backend.

Bank Management System

[GitHub](#)

- Developed a database-driven bank and microfinance management system for managing customers, employees, accounts, and related operations.
- Designed the relational database schema using **SQL/SQLite** and implemented the core backend logic and user views utilizing **Laravel (PHP)**.

Robot Control Platform – ROS Based Robot

[GitHub](#)

- Developed a **React (JavaScript)** web portal to monitor and control a **ROS 2**-based Kobuki robot, allowing users to visualize mapped environments in **RViz** and set autonomous navigation goals.
- Configured **rosbridge** with **Python** to expose ROS topics to the web interface and integrated live environmental feedback via an **MJPEG stream** from a Kinect camera.

Transport Management System – Software Engineering Project

[GitHub](#)

- Collaborated across a four-team system (hardware, data processing, web, DevOps) to build a bus tracking and ETA prediction platform.
- Engineered data processing pipelines and trained **Machine Learning** models in **Python** to handle anomaly detection and estimate arrival times.

Achievements

- **Champion** – Devthon Web Development Competition [🔗](#)
- **Finalist** – UOJ Coders(UOJ), CodeRally(IIT) (Competitive Problem Solving)
- Participant – IEEE Xtreme 2025, Mora Xtreme 2025(UOM), SpritX, Idealize (AIESEC), Ballerina Hackathon (WSO2)

Leadership & Volunteering

- **Department Representative**, 2026/2027
- Logistics Lead, Career Fair 2025/26
- Member, Trincomalee District University Students' Association
- Member, IEEE ComSoc Student Branch
- Logistics Committee - Robo Games 25/26, SLIOT 25/26 , Hit the Grounds

Certifications

Advanced Certificate in English for Professional Communication – Open University, Kandy, Sri Lanka (2023)

References

Dr. Kutila Gunasekera

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