THISEN LAKDINU

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ABOUT ME

Motivated Computer Engineering undergraduate with strong interests in embedded systems, networking, and software development. Experienced in academic and personal projects, event coordination, and leadership roles. Passionate about learning new technologies explore new uses cases of hardware and software and applying engineering knowledge to solve real-world problems.

EDUCATION

University of Peradeniya **Feb. 2023 – Present**

Bachelor of the Science of Engineering Honors (Computer Engineering) | CGPA: 3.85/4.00 Peradeniya, Sri Lanka

- Relevant coursework: Programming Fundamentals (C, Java, Python), Data Structures and Algorithms, Object-Oriented Programming, Digital Logic Design, Computer Organization and Architecture, Embedded Systems and Microcontrollers, Computer Networks, Database Management Systems, Operating Systems, Software Engineering, Signals and Systems, and Engineering Mathematics.

D.S. Senanayaka College Colombo 07 **Feb. 2008 – Oct. 2022(23)**

G.C.E. Advanced Level (Physical Science Stream) | Results: 3 A's | District Rank: 244 (Colombo) Colombo, Sri Lanka

RESEARCH EXPERIENCE

Autonomous Robotic Platform for Real-Time Plant Phenotyping **Jan 2026 – Present**

Faculty of Agriculture & Faculty of Engineering, University of Peradeniya, Sri Lanka

- Participating in a multidisciplinary research project to develop an autonomous robotic platform for non-destructive monitoring of plant phenotypic traits using Computer Vision and IoT technologies.
- Developing a mobile application for field surveys to collect agricultural data that will be used to train machine learning models for plant phenotyping.
- Implementing basic image processing features within the mobile application and designing a server-based data collection system to gather and manage data from multiple devices and field locations..

TECHNICAL PROJECT EXPERIENCE

Modular Aquarium Management System **2026 – Present**

ESP32, IoT, Sensors, MQTT, Web Dashboard, Js

Designed and implemented a modular IoT-based aquarium automation and monitoring system enabling real-time tracking of temperature, water level, pH, and turbidity.

- Key Contributions:
  - Developed ESP32 firmware for multi-sensor integration and reliable data acquisition.
  - Implemented MQTT-based communication architecture for real-time data transmission across distributed network nodes.
  - Designed backend data pipeline and web-based dashboard for live visualization and alert-based monitoring.
  - Engineered modular hardware design allowing scalable sensor expansion and easy maintenance.

Courier Delivery Tracking and Management System **2025**

MySQL, SQL, Database Design

Designed and implemented a complete relational database system for managing courier operations including parcels, vehicles, employees, routes, and customers.

- Key Contributions:
  - Developed fully normalized schema with integrity constraints and optimized indexing strategies.

- Populated database with 20+ meaningful records for realistic system testing and performance validation.
- Implemented advanced SQL queries, views, triggers, and stored procedures for automation and reporting.

Traffic Light Controller with Pedestrian Signals **2025**

C, Embedded Systems, FSM Design

Designed and implemented a finite-state-machine-based traffic light control system with integrated pedestrian crossing signals.

- Key Contributions:
  - Implemented timing-accurate phase transitions using structured C programming.
  - Added pedestrian interrupt handling and safe crossing logic for real-world traffic scenarios.
  - Validated design using simulation and hardware testing methodologies.

Hospital CKD Patient Data Entry & Management System **2025**

Database Design, UI Workflow, System Architecture

Designed a scalable data entry and management platform to streamline Chronic Kidney Disease (CKD) patient record handling in hospitals.

- Key Contributions:
  - Designed relational database schema ensuring secure storage, consistency, and efficient retrieval of patient medical records.
  - Developed structured data entry workflows minimizing human error and improving usability for healthcare staff.
  - Focused on system scalability, privacy, and maintainability.
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PROFESSIONAL EXPERIENCE

Undergraduate Teaching Assistant **Feb 2024 – Present**

Department of Computer Engineering, University of Peradeniya

- Conducting and guiding laboratory sessions, for Digital Design (CO2010), Computer Networks (CO2030 & CO323), and Computing (Python) (CO1010, GP106) for junior undergraduate batches.

Secretary **2025 – Present**

IESL Students' Chapter, University of Peradeniya

Assistant Secretary (2024 - 2025)

Association of Computer Engineering Students (ACES)

Committee Member (Batch Rep) (2024 - 2025)

Association of Computer Engineering Students (ACES)

Assistant Treasury (2025 - Present)

Leo Society, University of Peradeniya

TECHNICAL SKILLS

Languages: Python, Java, C/C++, Verilog HDL

ML & Computer Vision: PyTorch, OpenCV, CNN

Frameworks & Dev: Flutter, Spring Boot, Android Studio

Embedded & Signal: ESP32, MATLAB Signal Analysis

Databases: MongoDB, MySQL, Postgres, Firebase, Supabase

Tools: Git, LaTeX, Jupyter, Google Colab, Postman, Gitlab

REFERENCES

Prof. Roshan Ragel

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Dr. Upul Jayasinghe

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