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PROFILE

Final year Engineering undergraduate specializing in Computer Engineering. Passionate in engineering intelligent, real-world solutions with a focus on generative AI and agentic AI. Proficient in machine learning and deep learning architectures, with hands-on experience in data analysis, NLP, multimodal systems, retrieval-augmented generation, and autonomous workflows that integrate reasoning, tools, and memory. Skilled in Python, data-driven system design, model evaluation, and explainability, with a strong foundation in both the theoretical and practical aspects of ML and DL, reinforced through coursework and lab sessions. Additional skills and knowledge in software engineering background. A proactive leader who thrives in collaborative environments, embraces challenges, and consistently delivers impactful results.

EDUCATION

- **BSc. Engineering (Hons.) in Computer Engineering**, University of Jaffna.   April 2022 – Present
  Modules: Machine Learning, Deep Learning, Artificial Intelligence,
           Intelligent Systems Design, Data Mining

- **Diploma in Software Engineering**, Sabaragamuwa University of Sri Lanka.   2020 – 2021

- **R/Sivali Central College, Ratnapura,** Physical science stream

SKILLS

- **Programming Languages:** Java, Python, C++, C#, SQL, JavaScript
- **Machine learning libraries:** TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy
- **Other Frameworks/Libraries**:
  - **Mobile:** React Native
  - **Frontend:** React.js, Bootstrap, Tailwind CSS
  - **Backend:** Express.js, Node.js, Spring Boot
  - **Testing:** JUnit, Jest
- **Databases:** Chroma DB, MongoDB, MySQL
- **Tools:** Jupiter, Firebase AI Studio, Google AI Studio, Huggingface (Additionally: Docker, VS Code, Cursor, Visual Studio, CI/CD, Git)
- **Concepts:** NLP, Machine Learning, Deep Learning, Transfer Learning, OOP, Data Structures & Algorithms,

KEY PROJECTS

- **ContextLens – RAG Q&A app with Gemini**

  Built a retrieval-augmented question answering platform with LangChain and ChromaDB, powered by Gemini API (gemini-1.5-flash-latest) for low-latency, large-context reasoning. Delivered a Python backend (REST API) and React frontend for document upload and chat interface.
  Tech Stack: Python, React, LangChain, ChromaDB, Gemini API (1.5-flash-latest).

- **Vision2Caption – AI-Powered Image Caption Generator**

  Developed an AI-powered web application using Gradio that combines ResNet50 for deep visual feature extraction with a HuggingFace large language model for natural language generation, reducing the optimized social media caption generation by 50% and improving reach by 30%

- **PatientPrep SL – AI Health App (Ongoing)**

  Working as the full-stack developer in developing an **agentic AI**-powered **mobile app** to help patients prepare for medical consultations, with features including encrypted local storage, secure authentication and automated structured doctor visit summaries.
  Tech Stack: React Native, Firebase, SQLite

- **LibriSense – AI-Powered Library Assistant**

  Fully automated a library management system with **MERN**-based web application with n8n **agentic automation**. The **Dockerized** n8n workflow monitors lent books in MongoDB Atlas, joins book metadata to personalize messages, and sends automated overdue email reminders. Integrated **Gemini API** with MongoDB for memory to retain agent context across runs. Implemented a human-in-the-loop approval step before dispatching emails.
  Tech Stack: MongoDB Atlas, Express.js, React.js, Node.js, n8n (Docker), Gemini API

- **Real-Time Online Harassment Detection in Virtual Classrooms (Ongoing Research)**

  Researching on developing a multimodal AI system using finetuned LLM, attention-enhanced CNN, and vector database fusion for real-time harassment detection, optimized via transfer learning and performance benchmarking.

OTHER PROJECTS

- **Budget Tracker – Standalone Windows Budget Tracking App**

  GitHub release: Budget_Tracker

  Built a standalone desktop application as a single-file, self-contained EXE with **.NET** WinForm to track personal expenses with add, edit and delete functions, date & category filtering and summary generation.
  Tech Stack: C# (.NET 8), WinForms, LiteDB, LINQ

- **LabMate – Student Lab Booking & Equipment Borrowing Portal**

  Live at: LABMate
  Served as **QA and Designer** in developing a **MERN-based full-stack web application** enabling real-time lab reservations and equipment tracking. Improved lab resource management efficiency by 50%. Focuses on role base authentication, lab schedule management and lab equipment borrowing management.
  Contribution: Frontend, Backend, Testing   **Tech Stack**: MongoDB, Express.js, React.js, Jest

- **Student Feedback Management System**

  Worked as a **full-stack developer** in developing a secure **web platform** for course and faculty feedback, integrating structured reporting and interactive dashboards to support data-driven academic evaluation and decision-making.
  Contribution: Frontend, Backend, Database design   **Tech Stack**: PHP, MySQL, JavaScript, HTML, Bootstrap

ACHIEVEMENTS

- Most Impactful Product award – Yarl Geek Challenge 14 (selected from over 70 national competitors)

- Semi-finalist – TECHNOVATION 2025 (SLT-Mobitel. Selected from over 100 national competitors)

- UOJCoders V4.0 Finalist (Selected from over 100 competitors)

- AlgoXplore 1.0 – Local Rank 16

CERTIFICATIONS

- Google exploreCSR Summer School on Machine Intelligence

- Computer Vision – Kaggle

- Machine Learning Explainability – Kaggle

- Introduction to Deep Learning – Kaggle

- Introduction to Machine Learning – Kaggle

- Large Language Models Level 1 – H2O.ai

LEADERSHIP & VOLUNTEERING

- **Co-Editor**, Rotaract Club of Ratnapura   (Jun 2025 – Present)
- **Executive Committee Vice President**, Engineering Students' Union   (Jan 2024 – Present)
- **Assistant Secretary**, Computer Engineering Society   (Oct 2024 – Present)
- **Initiative Group Vice President (IGVP)**, AIESEC Jaffna   (Aug 2023 – Dec 2023)

REFERENCES

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