

MATHURAKSHI MAHENDRARAJAH

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PROFILE SUMMARY

I am a third-year Computer Engineering undergraduate with strong skills in software development and a passion for Machine Learning, Artificial Intelligence, and Generative AI. I have experience building applications integrating AI-powered solutions, including RAG-based systems. I am committed to continuously learning, applying my technical knowledge to solve complex problems, and contributing to innovative projects.

EDUCATION

University of Sri Jayewardenepura

Feb 2023 - Present

- B.Sc.(Hons) in Computer Engineering (Reading) | CGPA: 3.89/4.00

Bt/Vivekananda Ladies Collage

Jan 2019 - Dec 2021

- G.C.E A/L - Physical Science Stream - 3A
- District Rank: 20 | Z-Score - 1.98

PROJECT

AI-POWERED LEGAL DOCUMENT ANALYZER | [GITHUB](#)

Jan 2026 - Present

- Developing a Streamlit-based AI system to summarize and query legal documents using Retrieval-Augmented Generation (RAG) with citation-aware answers.
- Implementing PDF ingestion, semantic chunking, FAISS vector retrieval, and LangChain integration with transformer-based LLMs for context-grounded, document-specific responses.
- Tech: **Python, Streamlit, LangChain, FAISS, OpenAI, PyPDF2**

DOMAIN-SPECIFIC MEDICAL TEXT SUMMARIZATION | [GITHUB](#)

Dec 2025 - Present

- Fine-tuning a T5 transformer model with LoRA for efficient summarization of medical research papers and building an end-to-end training and inference pipeline with preprocessing, tokenization, and checkpointing.
- Developing a Streamlit app for real-time summarization of new medical articles, providing concise and accurate domain-specific summaries.
- Tech: **Python, Hugging Face Transformers, LoRA, PyTorch, Streamlit**

CREDIT CARD FRAUD DETECTION | [GITHUB](#) | [LIVEDEMO](#)

Sep 2025 - Oct 2025

- Developed an end-to-end ML pipeline using XGBoost to detect fraudulent transactions, handling highly imbalanced data with feature engineering and SMOTE, and evaluating with precision, recall, F1-score.
- Built a Streamlit web app for real-time fraud prediction with interactive inputs and probability-based outputs.
- Tech: **Python, Pandas, NumPy, Scikit-learn, XGBoost, Streamlit**

POLICY-DRIVEN API ACCESS MANAGEMENT SYSTEM | [GITHUB](#)

Apr 2025 - Jun 2025

- Implemented a backend system to manage API access with policy-based rules, JWT authentication, rate limiting, and usage logging for multiple clients.
- Built secure REST APIs using Spring Boot and MySQL, with a minimal frontend for testing and demonstration.
- Tech: **Java, Spring Boot, REST APIs, JWT, MySQL**

COOKIFY – FOOD RECIPE APP (TEAM LEAD) | [GITHUB](#)

Nov 2024 - Feb 2025

- Led development of a Flutter mobile app for meal planning, recipe discovery, and grocery management, including ingredient- and name-based search, meal planner, shopping list, user profiles, and community chat.
- Integrated Firebase and Spoonacular API to enable secure, smooth performance and collaborative cooking features.
- Tech: **Flutter, Firebase, Spoonacular API, VS Code**

SKILLS

- **Programming Languages** : Python, C++, Java, JavaScript
- **Machine Learning & AI** : Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow/Keras, PyTorch, LangChain, LLM, SLM, RAG
- **Web Development**: Streamlit, Flask, Gradio, Flutter, Spring Boot, Firebase, MySQL
- **Cloud & Deployment**: Docker, AWS (basic)
- **Version Control & Tools**: Git & GitHub, Jupyter Notebook, Google Colab, VS Code
- **Soft Skills** : Problem Solving, Team Collaboration, Fast learner, Adaptability, Communication

CERTIFICATION

- [Machine Learning Specialization](#) | (Andrew Ng, DeepLearning.AI, Coursera) Nov 2025
- [Generative AI with Large Language Models](#) | (Andrew Ng, DeepLearning.AI, Coursera) Dec 2025

COMPETITIONS & ACHIEVEMENTS

- **Winner – Idea Pulse 2025** – Secured 1st place in university-level innovation challenge
- **Top 5 Finalist – CodeQuest 2024** – Ranked among the top 5 in a competitive coding challenge
- **CodeRally** - Selected to Advanced tier in a competitive coding challenge
- **UOJCoders – Finalist** – Reached final round of competitive coding challenge
- **Hackathon Participation**: MoraXtreme 9.0, IEEEXtreme 18.0

REFERENCE

Dr. Udaya Wijenayake

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