

Dilshan Abeykoon

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Skills

- **Programming/ML:** Python, Machine Learning, Deep Learning, NumPy, Pandas, Matplotlib, TensorFlow, Keras, OpenCV, Hugging Face, LLM
- **Web Development:** React, Tailwind CSS, Vite, JavaScript, TypeScript, Flask, Django, FastAPI
- **DevOps/Deployment:** Docker, AWS (EC2, S3), Git, CI/CD, Linux, Heroku
- **Testing/Automation:** Selenium, Postman
- **Databases:** SQL, SQLite, MongoDB, Firebase
- **APIs/Frameworks:** LangChain, OpenAI, RESTful API

Experience

Engenia Solutions Pty. Ltd — Victoria, Australia

Feb 2025 – Present

Junior Machine Learning Engineer

Binary Classification – Frog vs Non-Frog Audio Detection

- Engineered a binary classification pipeline to detect frog sounds using WAV audio files.
- Employed TensorFlow's YAMNet for feature extraction and model training.
- Designed cross-validation workflows to ensure balanced dataset partitioning.

Employee Management System Development

- Developed a Django-powered backend with a responsive ReactJS frontend.
- Managed HTTP requests and REST APIs using Django REST Framework with CORS configurations.
- Utilized Axios and React state-driven components for seamless data flow.

Backend API for ML Prediction Application

- Engineered a FastAPI backend for ML predictions, enabling efficient routing and fast response times.
- Designed RESTful services for high-throughput ML inference API calls.

Object Detection for Bee Harvest Estimation via Thermal Imaging

- Built an object detection pipeline using YOLO and Fast R-CNN for thermal image analysis.
- Annotated COCO-format datasets of brood boxes and trained models with bounding boxes.
- Improved accuracy from 68% to 75% via hyperparameter tuning and model simplification.

Engenia Solutions Pty. Ltd — Victoria, Australia

Aug 2024 – Feb 2025

Machine Learning Engineer – Intern

Custom Deep Learning Model Deployment – Audio Classification

- Designed and implemented a custom multiclass classification model using TensorFlow Keras.
- Applied augmentation (noise, pitch shift) and regularization (L2, dropout) for better generalization.
- Developed a Flask web app for real-time audio prediction, deployed on AWS.

Extraction & Analysis of Australian Women's Sports

- Scraped sports news using Selenium and built a classifier with OpenAI LLMs.
- Performed sentiment analysis using Hugging Face BERT and applied ANOVA/Chi-square tests.

Ruhunu Foods Pvt. Ltd — Kandy, Sri Lanka

Aug 2024 – Feb 2025

Automation – Intern

- Supported automation-related tasks as part of process optimization initiatives.

Education

Coventry University — United Kingdom

May 2024 – Jun 2025

BSc (Hons) in Computer Science with Artificial Intelligence

Final Grade: 77% — First Class Honours

National Institute of Business Management — Sri Lanka

Mar 2022 – Apr 2024

HND in Computer Science with Artificial Intelligence

GPA: 3.63

Projects

Dehumidifier Automation System – Ruhunu Foods

- Designed an automated humidity control system for spice mills to maintain optimal drying and storage conditions.
- Integrated real-time humidity sensors with microcontroller-based logic to trigger dehumidifiers automatically.
- Improved spice quality and shelf life while reducing manual monitoring and optimizing energy usage.

Agri Drone with Smart Fertilizer Detection

- Developed a drone-based monitoring system to assess paddy field health and fertilizer needs.
- Used Azure Custom Vision to train and deploy a model for detecting undernourished crop areas from aerial images.
- Enabled targeted fertilizer application to improve crop yield, reduce waste, and support precision agriculture.

Secure Full-Stack Banking App

- Built a banking app using Flask, HTML/CSS/JS, and SQLite to demonstrate key security features.
- Implemented authentication, encryption (symmetric asymmetric), and digital signatures using Python libraries.
- Showcased secure login, admin panel, balance view, and fund transfers without external tools.

Certifications

- Microsoft Power Platform Fundamentals – Microsoft
- Introduction to DevOps – IBM