Bimsara Wijewantha

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Professional Summary

IT undergraduate specializing in Artificial Intelligence at SLIIT, with hands-on experience building full-stack applications using Spring Boot, ASP.NET Core, and FastAPI. Interested in backend engineering, cloud deployment, and integrating LLMs, RAG, and agentic workflows into practical applications.

Education

Sri Lanka Institute of Information Technology (SLIIT) **2024 – Expected: 2028**
BSc (Hons) in Information Technology Specialization in Artificial Intelligence *3.68 CGPA*

Dharmaraja College, Kandy **2009 – 2022**
G.C.E. Advanced Level

Technical Skills

Languages & API: Java, Python, TypeScript, C#, SQL, REST API

Frameworks: Spring Boot, Node.js, Express.js, FastAPI, ASP.NET Core

AI / ML & LLM: LangChain, LangGraph, Scikit-learn, RAG, MCP, HuggingFace, Bedrock

Databases: MongoDB, PostgreSQL, MySQL, ChromaDB, Supabase

Tools & Cloud: Docker, Nginx, Git/GitHub, GitHub Actions (CI/CD) AWS, Postman, Vercel, Railway

Projects

Mehewara – AI-Powered Municipal Works Management Platform ***Sep 2026 – Present***
University Project | React, Flutter, ASP.NET Core, PostgreSQL, FastAPI, LangGraph, CI/CD, Nginx

- Developing a full-stack municipal works platform to transform citizen infrastructure reports into structured incidents and support maintenance prioritization and crew dispatch.
- Implemented resident report submission and tracking with map-based location selection, photo uploads, and RESTful APIs backed by PostgreSQL.
- Built a LangGraph report-analysis agent using Gemini and Pydantic validation to extract structured information from unstructured complaints.
- Configured Docker-based deployment with an Nginx reverse proxy and GitHub Actions CI/CD workflows for automated checks, container publishing to GHCR, and VPS deployment.

Intelligent Support Assistant & Ticket Prioritization Platform ***Feb – May 2025***
Solo Project | React, FastAPI, Supabase, LangChain, LightGBM, ChromaDB

- Architected an end-to-end support system utilizing React, FastAPI, and Supabase, integrating a LangChain and ChromaDB RAG pipeline with HuggingFace embeddings for context-aware knowledge retrieval.
- Engineered an automated ticket classification pipeline extracting 200+ NLP features (TF-IDF, sentiment, topic detection) using distant supervision to bypass unreliable self-reported priority levels.
- Trained an optimized LightGBM classifier with SMOTE for class balancing, achieving 92.9% accuracy and 98.9% recall on critical high-priority tickets to automate query routing.

AWS AI Document and Audio Pipeline ***Jul - Aug 2026***
Solo Project | Python, Boto3, AWS S3, Textract, Comprehend, Translate, Polly, Transcribe

- Built a Python pipeline integrating six AWS services to extract text from PDFs, analyze sentiment, translate text samples, synthesize speech, and transcribe generated audio.
- Implemented asynchronous Textract processing for multipage PDFs and Transcribe job polling with unique job names, using S3 to store source documents and generated audio.
- Connected document, language, and speech service outputs through Boto3, saving generated MP3 files locally and to S3 and retrieving the resulting transcripts.

RFP Intelligence – AI-Powered RFP Response Automation Platform ***Oct - Dec 2025***

University Project | Spring Boot, FastAPI, LangChain, AWS Bedrock, pgvector

- Developed an enterprise AI application automating RFP responses using RAG, organizational knowledge bases, and submission history.
- Built a serverless question extraction pipeline with AWS Lambda, Gemini 2.0 Flash, and S3; handled multi-format documents (PDF/DOCX/Excel/CSV) with chunking and validation.
- Implemented Pydantic output parsing, SQLAlchemy ORM with status lifecycles, 3-retry fault tolerance, and export features using iText PDF and Apache POI.

UniSync – Full-Stack University Management Platform ***Feb - May 2026***

University Project | React, React Native, Node.js, Express, MongoDB, JWT

- Designed and developed a comprehensive university management mobile application to streamline communication, access to academic resources, and administrative workflows for students and staff.
- Implemented key features including secure authentication, role-based access, announcements, event management, lost & found tracking, and portfolio support.
- Built a scalable full-stack architecture integrating a mobile frontend with RESTful APIs and database-driven data management for real-world university operations.

Diamond Price Prediction Model ***Jun - Jul 2025***

Solo Project | Python, scikit-learn, XGBoost, Pandas, Numpy

- Developed an end-to-end regression pipeline predicting diamond prices from physical attributes using the Kaggle Diamonds dataset.
- Conducted extensive EDA and feature engineering (Ordinal/One-Hot Encoding) to optimize feature correlation and data distribution.
- Trained and tuned regression models (Random Forest, XGBoost) using GridSearchCV, achieving an R^2 score of 98%.
- Deployed the optimized XGBoost model into an interactive Streamlit web dashboard for real-time price estimation.

Leadership & Extracurricular Activities

SKU IoT Challenge 2026 Committee – SLIIT Kandy Uni **2025 – 2026**

Media Lead & Assistant Designer *Kandy, Sri Lanka*

- Spearheaded media campaigns, promotional strategies, and design assets to drive event visibility and school participation.
- Assisted in planning, sponsorship coordination, and execution for the flagship competition held at SLIIT Kandy Uni.

IoT, AI & IT Awareness Sessions – SLIIT Kandy Uni **2025 – 2026**

Workshop & Outreach Coordinator *Central Province, Sri Lanka*

- Conducted technology awareness sessions across leading schools including Good Shepherd Convent, St. Anthony's College, Amina Girl's National School, and Kandy Girl's High School.

Science Society – Dharmaraja College **2022 – 2023**

President *Kandy, Sri Lanka*

- Organized and executed the annual Science Day, ECFECTIO'22, adapting operations to overcome pandemic constraints and maintain student engagement.
- Led corporate and alumni sponsorship outreach campaigns, securing essential funding and resources to successfully stage the event.

Astronomical Society – Dharmaraja College **2020 – 2021**

Event Coordinator *Kandy, Sri Lanka*

- Co-organized Stellanova'21, Sri Lanka's first-ever joint online astronomy competition in collaboration with Sirimavo Bandaranaike Vidyalaya.
- Managed event coordination and inter-school outreach for national quiz rounds featuring top schools across the country.
- Contributed to organizing the annual astronomy event, Universal Night'21, overseeing logistics and technical setups for virtual attendees.