BIMSARA SERASINGHE

Artificial Intelligence and Data Science undergraduate-RGU: IIT



Second-year undergraduate in Artificial Intelligence and Data Science at Robert Gordon University (RGU-IT). Strong foundation in Python, data analysis, machine learning, and statistics. Hands-on experience through coursework and projects, with a keen interest in applying AI solutions to real-world problems.

EDUCATION

BSc(Hons) Artificial Intelligence and Data Science 2026 - PRESENT
Robert Gordon University: IIT

- Artificial Intelligence, Machine Learning, Data Science, Data Structures & Algorithms, Data Engineering, Database Systems, Advanced Mathematics,Object Oriented Development

GCE Advanced Level (Physical Science Stream)
-Maliyadewa College,Kurunegala 2023

- General English – A, Combined Mathematics – C, Chemistry – C, Physics - S

GCE Ordinary Level – Mayurapada Central College, Narammala 2020

- 9 A's with Information & Communication Technology and English Language

CERTIFICATES

AI Foundations & Applied Machine Learning JUNE 2025

- AI fundamentals and real-world applications
- Data analysis and EDA using Pandas
- Supervised and unsupervised learning models
- Basics of deep learning, NLP, and Computer Vision

iCM (ICET Certified Master) – Software Engineering Program FEBRUARY 2024

- Object-Oriented Programming, algorithms, and data structures
- Web development (HTML, CSS, JavaScript)
- Database management using SQL and MySQL
- Java application development with JavaFX

Certificate Course on Qualitative Data Analysis using NVivo Software FEBRUARY 2026

- Qualitative research methods and thematic analysis
- Data coding, classification, and categorization using NVivo
- Text, audio, image, and video data analysis
- Practical analysis of qualitative datasets

NVIDIA Fundamentals of Machine Learning Certificate (Whizlabs/Coursera) JUNE 2025

- Mastered ML/Deep Learning basics, supervised & unsupervised techniques, time series forecasting, and GPU-accelerated workflows (NVIDIA RAPIDS)

CONTACT

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LinkedIn

LinkedIn | Bimsara Serasinghe

GitHub

SKILLS

Programming Languages

- Python
- Java
- R

Tools & Platforms

- Jupyter Notebook
- GitHub
- Google Colab

Data Analysis

- Pandas
- NumPy

Machine Learning

- Scikit-learn
- Tensorflow
- PyTorch

Data Visualization

- Seaborn
- Matplotlib

Statistics & Mathematics

- Probability & Statistics
- Hypothesis Testing
- Linear Algebra
- Regression Analysis

Cloud

- AWS / Google Cloud

PROJECTS

Customer Churn Prediction - Machine Learning JUN 2025 – AUG 2025

- Developed binary classification models to predict telecom customer churn (Kaggle Telco dataset).
- Performed EDA, full preprocessing pipeline (feature engineering, encoding, SelectKBest + PCA), and hyperparameter tuning.
- Compared tuned Neural Network (81.5% acc, 0.62 F1, 0.86 ROC-AUC) vs tuned Decision Tree (80.7% acc, 0.59 F1); NN outperformed.

Tools: Python, Pandas, scikit-learn, TensorFlow/Keras, Seaborn, PCA, GridSearchCV

Text Emotion Recognition Model | DSGP FEB 2026

- Fine-tuned 3 models (English + Sinhala + Tamil) using 3 pre-trained models in Hugging Face on 39k+ tweets & local datasets
- Built real-time chatbot for multi-language emotion detection
- Trained each 6 epochs with accuracy + weighted F1 metrics

Tools: Hugging Face, PyTorch, Pandas, scikit-learn

Crisis Intelligence Pipeline JAN 2026

- Engineered LLM pipeline for cyclone disaster response: few-shot SOS classification, CoT/ToT logistics planning, token truncation
- Implemented temperature stability test, priority scoring, optimal rescue routing, and Pydantic-validated news feed extraction to Excel
- Focused on reliability, safety, efficiency and scalability in crisis scenario

Tools: Python, Groq/OpenAI LLMs, Pydantic, Pandas, few-shot/CoT/ToT prompting

Fine-tuning vs. RAG — Financial Q&A Showdown JUN 2026 – PRESENT

- Built and compared two end-to-end architectures for financial document Q&A on Uber's 2024 Annual Report (142-page 10-K): a fine-tuned "Intern" model and a hybrid RAG "Librarian" system.

- Fine-tuned Qwen/Qwen2.5-3B-Instruct using QLoRA (4-bit quantization + LoRA adapters) on a synthetic dataset created via a dual-LLM pipeline (question generation + grounded answer generation) with zero manual labeling.

- Implemented advanced hybrid RAG with Weaviate (dense vector search + BM25 via Reciprocal Rank Fusion + cross-encoder reranking). Evaluated both systems on a held-out test set using ROUGE-L, LLM-as-a-Judge (faithfulness & accuracy), latency, and cost projection for 500 daily users. Key insight: RAG delivered superior factual accuracy and source citation critical for fintech trust, while fine-tuning excelled at tone and stylistic consistency.

Tools: Python, Qwen2.5-3B, QLoRA, Hugging Face, Weaviate, Cross-Encoder, ROUGE-L, LLM-as-a-Judge

EXPERIENCE

Dialog Axiata PLC — Internship APR 2026 – PRESENT
Analytics and Network Automation Engineer Intern

- Supported analytics, data engineering, and network automation initiatives within the Solutions Engineering – Enterprise Technology team.
- Developed Python-based automation processes to streamline repetitive operational and data-related workflows.
- Worked with AI and Large Language Models (LLMs) to evaluate AI outputs and assess the performance of AI-based solutions.
- Assisted in machine learning and AI model training, evaluation, and experimentation.
- Performed data processing, analysis, validation, and reporting to support operational requirements.
- Contributed to network automation activities by developing and supporting automation-based solutions for network-related processes.
- Applied Python, SQL, Machine Learning, and AI techniques to real-world enterprise use cases.
- Collaborated with technical teams to develop data-driven, AI-enabled, and automation-focused solutions.

REFERENCE

Gayan Neththikumarage

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MAS HOLDINGS (PRIVATE) LIMITED

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Mr. Prashan Rathnayaka

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AI & DS Stage 02 Coordinator
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- I certify that the information given in this resume is complete and correct to the best of my knowledge and belief.

Bimsara Serasinghe
21/04/2026