



RASARA THATHSARANA

BSc Eng Hons, Computer Science & Engineering
(Undergraduate)

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📍 483/24, Uswaththa, Gonawala, Kelaniya

About Me

Ambitious undergraduate pursuing a B.Sc. Engineering Honours degree in Computer Science and Engineering at the University of Moratuwa, with a deep passion for machine learning and data science. Excelling under pressure and adapting to dynamic challenges, combined with strong self-management skills, continuous learning, and teamwork, aiming to contribute meaningfully to the field of computer science and technology and make a positive impact on society.

Technical Skills

- **Programming Languages**

Python | Java | JavaScript | C++

- **Database**

SQL | MySQL

- **Frameworks & Libraries**

Scikit Learn | Pytorch | Langchain |
HuggingFace | OpenCV |
Detectron2 | SHAP | TSFEL |
Albumentations | Hyperopt | React |
Next.js

- **Tools**

Git | GitHub | Docker | VSCode |
AWS Sagemaker | Jira | Azure |
Arduino | Power BI

Certifications

- AWS Academy Machine Learning Foundations
- Intro to Machine Learning (Kaggle)
- Neural Networks and Deep Learning (DeepLearning.AI)

Experience

IronOne Technologies (Pvt) Limited

2024 Dec - 2025 Jun

Intern Machine Learning Engineer

- Worked on developing an explainable credit scoring model for a financial client, covering the full ML workflow from data preparation to model training, validation, and evaluation, while ensuring transparent and reliable credit-risk insights.
- Conducted R&D to enhance model performance and interpretability using ML, deep learning, time-series modeling, and advanced feature engineering.
- Contributed to production-level model documentation, including performance evaluation, financial impact analysis, and comparative model assessment.

Education

• **University of Moratuwa**

B.Sc. Engineering (Hons)

2022 - 2026

CGPA : 3.71

- Specialization - Computer Science & Engineering
- Stream - Data Science & Engineering

• **Sri Dharmaloka College, Kelaniya**

2006 - 2019

G.C.E. A/L's 2020 - Physical Science Stream - 3A's

G.C.E. O/L's 2016 - 8 A's, B

Projects

• **Vision Transformer based Pan-Arctic Feature Detection with Data Fusion**

2025 Jun - Ongoing

Python / PyTorch / Vision Transformers / CNN / Detectron2 / QGIS

- Addressing the problem of underutilizing rich satellite data (multispectral bands, DEM, location, and metadata) to improve downstream task performance.
- Developing a unified ViT-CNN hybrid framework with context-aware patchification and multimodal data fusion to enhance pan-Arctic feature detection.

• **PhysioNet - Digitization of ECG Images**

2025 Nov - Ongoing

Python / Pytorch / OpenCV / CNN / Transformer / UNet

- Developed an automated computer vision pipeline to recover clinical time-series data from scanned paper electrocardiograms (ECGs).

- Developing LLM Application with LangChain (Datacamp)
- Google Cloud AI Infrastructure Specialization

Academic Interests

- Machine Learning
- Deep Learning
- Data Science
- Computer Vision
- Time Series Forecasting
- Natural Language Processing

Personal Interests

- Trekking & Hiking
- Photography
- Movies & TV series
- Novels

References

Dr. Thanuja D. Ambegoda

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- **Enhancing Wav2Vec2 with Inter-Codebook Diversity and Residual Quantization ([GitHub](#))** 2025 Jul - 2025 Oct
Python / PyTorch / Wav2Vec2 Base Model / HuggingFace
 - Improved Wav2Vec2 pretraining by introducing Inter-Codebook Similarity Loss to enhance model performance.
 - Improved fine-tuning process to achieve faster convergence and better adaptability for low-resource languages using Residual Vector Quantization.
- **Crypto Currency Price Prediction & Portfolio Management Tool ([GitHub](#))** 2024 Jul - 2024 Nov
Python / SARIMAX / LSTM / Next.js / TypeScript
 - Developed deep learning models for crypto price forecasting and risk assessment.
 - Built a web-based interface featuring portfolio management tools, forecasting visualizations, and end-to-end risk assessment and management features.
- **Home Credit - Credit Risk Model Stability ([GitHub](#))** 2024 Mar - 2024 May
Python / Polars / XGBoost / RandomForest / Ensemble models
 - Developed a stable and reliable loan default prediction model, achieving strong performance on the Kaggle Home Credit dataset.
- **ML Olympiad - Sustainable Urban Living ([GitHub](#))** 2024 Feb - 2024 Mar
Linear Regression / XGBoost / RandomForest / SV / KNN Regressor
 - Developed a machine learning model to predict the Sustainable Habitability Score of properties based on various features by comparing, visualizing, and analyzing the performance of different models.
- **Smart Wearable for Workplace Safety ([GitHub](#))** 2023 Dec - 2024 Feb
(Team Leader, Semifinalist)
NodeMCU / IOT / NodeRed / MQTT / MySQL / React / Express
 - Led the development of a wearable and stationary device system that communicated to monitor vital signs and environmental conditions, ensuring worker safety in critical environments.
 - Recognized as a semifinalist in the SLIoT 2023 competition.
- **RPAL Interpreter ([GitHub](#))** 2024 Mar - 2024 May
Python / RPAL
 - Developed a Python-based interpreter for the RPAL language, featuring a Lexical Analyzer, Parser, AST Generator, Standardizer, and CSE machine.
 - Added functionality to view intermediate stages of the interpretation process.

Competitions

- Finalist - Enigma 2024
- Semifinalist - SLIOT Industry 4.0 2023
- Participant in MoraXtreme 8.0 2023
- 20th place in ML Olympiad - Sustainable Urban Living 2024
- Participant in Home Credit - Credit Risk Model Stability 2024

Extra-Curricular

- Senior Prefect & Junior Head Prefect—Sri Dharmaloka College, Kelaniya (2015–2019)
- Student Member—Institution of Engineers, Sri Lanka (IESL) (2024–Present)
- Associate Member—School Hockey & Athletic Teams, Sri Dharmaloka College (2011–2019)