AKILA PREMATHILAKA

Name in full : Suduhakuru Dewayalage Akila Vimukthi Sampath Prematthilaka
Address : A/118, Ambulugala, Mawanella, 71500, Sri Lanka
Mobile : +94 (76) 317 5174 / +94 (71) 536 9264
Email : akilavsprematthilake@gmail.com
Linked In : https://www.linkedin.com/in/akila-prematthilake/
Web Site : https://avsprem.github.io/

PROFILE

I am a fresh graduate holding a BSc. (Hons) degree in Data Science, with a strong desire to learn and implement data-driven approaches. I am eager to explore advanced areas in Data Science, Machine Learning, and Artificial Intelligence, and I am seeking opportunities that will allow me to expand my knowledge and skills in these fields. I am currently looking for postgraduate opportunities that will enable me to leverage and advance my knowledge through research and practical applications.

Additionally, I am a wheelchair user who has developed strong resilience and problem-solving skills through navigating both academic and personal challenges.

EDUCATION

B.Sc. (Hons) in Data Science, *Faculty of Science, University of Peradeniya* | 2020 - 2025

- Data Science GPA : 3.73/4 [GPA calculated for Data Science courses only]
- Final two years GPA : 3.62/4 [GPA calculated based on the final two years of 4-year honors degree]
- Overall GPA : 3.48/4 [GPA calculated for 4-year honors degree]

Highlighted Courses : Artificial Intelligence and expert systems, Artificial Neural Networks And Fuzzy Logic, Big Data Analytics, Computing For Data Science, Advanced Database Management Systems, Data Mining Techniques, Machine Learning, Advanced Time Series Analysis, Data Structures, Design And Analysis Of Algorithms, Probability Theory, Regression Analysis, Multivariate Methods, Non Parametric and Categorical Data Analysis, Reliability Theory And Survival Analysis.

RESEARCH BACKGROUND

Paper Publications

- **"Smart Diagnosis of Anemia Subtypes Using CBC and Deep Learning"** - *Springer Nature Communications in Computer and Information Science (CCIS), vol. 2726, P 135-149. (DOI: 10.1007/978-981-95-4409-7_10)*

Abstract Publications

- **"Uncovering the solar energy potential of reservoirs in sri lanka: a time series and machine learning approach"** - *Proceedings of the Peradeniya University International Research Symposium and Exposition (iPURSE) -2025, University of Peradeniya, vol. 26, P 334. (DOI: 10.63967/AULT4918)*

- **"Machine learning for anaemia subtype classification: a neural network study"** - *Proceedings of the Peradeniya University International Research Symposium and Exposition (iPURSE) -2025, University of Peradeniya, vol. 26, P 315. (DOI: 10.63967/AULT4918)*

- **"Assessing floating solar potential in sri lanka using a hybrid SARIMA-LSTM forecasting approach"** - *Proceedings of the Postgraduate Institute of Science Research Congress (RESCON) -2025, University of Peradeniya, vol. 12, P 82.*

- **"Forecasting solar electricity generation potential on 18 major reservoir surfaces in Sri Lanka using long short-term memory (LSTM) model"** - *Proceedings of International Research Conference of the Open University of Sri Lanka (IRC-OUSL) -2025, The Open University of Sri Lanka.*

PROJECTS

Visualization and Analysis of major river water levels in Sri Lanka

- **Tools & Methods Used -** Data Extraction | ETL | Data Pre-processing | EDA | XGBoost | Prophet | Multiple Linear Regression | Dashboard Development | Data Visualization

Build a computer vision app with Azure Cognitive Services

- **Tools & Methods Used -** Azure Portal | Computer Vision API | API Console | Image Analysis | Optical Character Recognition (OCR) | Object Detection | Feature Extraction

Dimensionality Reduction Using Factor Analysis on a Diabetes Dataset

- **Tools & Methods Used –** EDA | Exploratory Factor Analysis (EFA) | Confirmatory Factor Analysis (CFA) | Dimensionality Reduction | Scree Plot | Bartlett's Test

Canonical Correlation Analysis of Car Performance Data

- **Tools & Methods Used –** Data Pre-processing | EDA | Canonical Correlation Analysis (CCA) | Statistical Significance Testing

Fixed Pattern Noise (FPN) Remover

- **Tools & Methods Used –** Image Processing | Video Processing | OpenCV | Edge Detection (Canny) | Gaussian & Median Blurring

Stock Price Prediction Using Machine Learning

- **Tools & Methods Used –** Data Pre-processing | Feature Engineering | Logistic Regression | Support Vector Machine | Decision Tree | Random Forest | Predictive Modeling | Time-Series Analysis

Heart Disease Prediction Using Machine Learning

- **Tools & Methods Used –** Data Cleaning & Imputation | EDA | Feature Selection | Logistic Regression | Random Forest | SVM

SELF-STUDIED COURSES

- Natural Language Processing with Classification and Vector Spaces [Coursera]
- Fundamentals of AI Agents Using RAG and LangChain [Coursera]
- Supervised Machine Learning: Regression and Classification [Coursera]
- Introduction to Data Engineering [Coursera]
- Introduction to Responsible AI [Google_Cloud_skills_boost]
- Introduction to Large Language Models [Google_Cloud_skills_boost]
- Introduction to Generative AI [Google_Cloud_skills_boost]
- Databases and SQL for Data Science with Python [Coursera]
- What is Data Science [Coursera]
- Tools for Data Science [Coursera]

TEACHING/WORK EXPERIENCE

- **Temporary Instructor (Equivalent to Teaching Assistant),** *Department of Computer Engineering, Faculty of Engineering, University of Peradeniya, Sri Lanka* | May 2025 – Present

  Courses:

  - CO1810 - Programming for Engineers II
  - CO1030 - Data Structures and Algorithms I ***(Instructor In Charge)***
  - CO1020 - Computer Systems Programming
  - CO227 - Computer Engineering Project
  - CO1010 - Programming for Engineers I ***(Instructor In Charge)***
  - CO2030 - Data Structures and Algorithms II
  - CO324 – Network and Web Application Design
  - CO523 – Programming Languages ***(Instructor In Charge)***

- **Intern Data Scientist**, *OCTAVE, John Keells Holdings PLC, Sri Lanka* | Oct 2024 - Apr 2025

  Key Contributions:

  - Building and optimizing data pipelines
  - Predictive Modeling
  - Customer Segmentation
  - Data Analysis
  - Backend development
  - Data Validation
  - Dashboard Development

MISCELLANEOUS SKILLS

Programming Languages	**:** Python, Java, C, Assembly
Big Data Platforms	**:** Databricks, DBFS
Database Management Systems	**:** MySQL, PostgreSQL, MongoDB, Neo4j
Statistical Software	**:** R, SPSS
Language proficiency	**:** Sinhala (Native)**,** English (Professional Proficiency)

EXTRA CURRICULAR ACTIVITIES

- **Membership Management Officer,** DataEx - Data Science Society, University of Peradeniya
- **Member,** Computer Society, University of Peradeniya
- **Member,** Statistical Circle, University of Peradeniya