

# SUSHENI KALUBOWILA

Data Science Undergraduate | AI & Cloud Solutions Specialist

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[\[LinkedIn\]](#) | [\[GitHub\]](#) | [\[Kaggle\]](#) | [\[Portfolio\]](#)

## PROFESSIONAL SUMMARY

Results-driven Data Science specialist with hands-on experience in building and deploying machine learning models using Python and XGBoost. Proven ability to translate complex data into actionable business insights through full-stack applications (Streamlit) and cloud-based infrastructures like AWS and Azure. Committed to leveraging predictive analytics to solve high-stakes business challenges and drive organizational growth.

## TECHNICAL SKILLS

- Programming:** Python (Advanced), SQL (Advanced), R, Java, C++, Kotlin.
- Data Science:** Machine Learning (XGBoost, Scikit-learn), Data Preprocessing, Statistical Modeling, Pandas, NumPy.
- Cloud & Platforms:** AWS (Networking, Storage, Scaling), Azure (Virtual Machines, SQL, Security), Google Colab .
- Tools:** Power BI (Advanced Data Visualization), Microsoft Fabric (End-to-End Analytics), Copilot for Data Science, Streamlit, Firebase, MongoDB, Git.

## PROJECT HIGHLIGHTS

### Autonomous AI Risk Assessment & Compliance System | IRWA Project

- Architecture:** Engineered a multi-agent autonomous system using **CrewAI** to automate the auditing of AI use cases across healthcare and finance sectors.
- Intelligence:** Integrated **Retrieval-Augmented Generation (RAG)** with **ChromaDB** to ensure real-time compliance with **GDPR** and global ethical standards.
- Deployment:** Developed a full-stack **Streamlit** dashboard with **LiteLLM** and **Google Gemini** for instant risk classification.
- [GitHub](#) | [Video](#)

### Self-Attention Optimization Research (HASN Framework) | MLOM Project

- Analysis:** Conducted a deep technical review of Transformer architectures, identifying the  $O(n^2)$  computational bottleneck in long-sequence processing.
- Innovation:** Proposed the **Hierarchical Sparse Attention Network (HASN)** framework to reduce complexity toward  $O(n \log n)$  using chunk-based summary representations.
- Synthesis:** Evaluated foundational AI research (Vaswani et al.) to bridge the gap between model expressivity and computational scalability.

### Bank Churn Intelligence : Customer Churn Prediction System

- Predictive Modeling:** Built an end-to-end dashboard using **XGBoost** to identify high-risk customers with high accuracy.
- Feature Engineering:** Developed reproducible data pipelines and a **"What-if" simulator** to model the impact of retention strategies.
- Project Leadership:** Led a team in data preprocessing and coordination for secure cloud deployment.
- [GitHub](#)

AI Symptom Checker : Intelligent Health Assistant

- **Full-Stack Development:** Engineered a diagnostic web application using **Streamlit** and **Google Gemini** for AI-driven symptom analysis.
- **Security:** Integrated **Firebase Auth** for secure user management and history tracking.
- **Deployment:** Successfully hosted the application on **Streamlit Cloud** with automated PDF data exports.
- [LiveApp](#) | [GitHub](#)

Penny Pilot : Personal Finance Tracking App

- **Mobile Engineering:** Developed a native Android application using **Kotlin** for real-time expense management.
- **Data Visualization:** Implemented **Room DB** for local storage and **MPAndroidChart** for advanced financial visualization.
- [GitHub](#)

Heart Disease Preprocessing | Individual Project

- **Data Engineering:** Conducted extensive cleaning and preprocessing on a raw medical dataset to ensure high-quality inputs for classification modeling.
- **Feature Engineering:** Analyzed variable correlations and engineered new features to improve the predictive power of downstream machine learning models.
- **Analysis:** Performed exploratory data analysis (EDA) to handle missing values, outliers, and data imbalances, ensuring a bias-free dataset
- [GitHub](#)

CERTIFICATIONS & ACHIEVEMENTS

- **Data Analytics (Microsoft):** Certified in Microsoft Fabric (End-to-End Analytics), Power BI, and Copilot for AI-driven data exploration.
- **Cloud Computing (AWS):** Completed a comprehensive training suite covering Cloud Networking, S3 File Systems, Computing Solutions, and Auto-Scaling/High-Availability Web Applications.
- **Cloud Infrastructure (Azure):** Specialized in Configuring Virtual Networks, Virtual Machine (VM) Management, Blob Storage, and Load Balancing for application resiliency.
- **AI & Machine Learning:** AI/ML Engineer (Stage 1 & 2) certified via SLIIT; completed Kaggle specializations in Python, Pandas, Data Visualization, and Intro to Machine Learning.
- **Professional Programming:** Certified in "Python for Data Science - Real Time Experience" (Udemy) and University of Moratuwa Python foundations.
- **Emerging Tech:** AI Agent Development with Azure AI Foundry (Microsoft Learn Student Ambassadors).

EDUCATION

Bachelor of Science Honours in Information Technology Specialized in Data Science SLIIT   Reading	2023 - 2027
R/Kalawana National School A/L Examination in Bio Science Stream	2019 - 2021

ADDITIONAL INFORMATION

- **Languages:** English (Professional), Sinhala (Native), Tamil (Basic) .
- **Soft Skills:** Team Leadership, Critical Thinking, and Effective Technical Communication .