# Sweety Seelam

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**Portfolio:** sweetyseelam2.github.io  | **Streamlit Apps:** share.streamlit.io/user/sweetyseelam2

## Professional Summary

- Business Analyst and Aspiring Data Scientist with 5 + years of experience driving data-driven growth for global organizations including Amazon.
- Proficient in SQL, Python, R, A/B testing, Causal inference, LLMs, NLP, Deep Learning models, Machine learning with a focus on experiment design, AI product development, and storytelling through data (dashboards such as Tableau and Power BI).
- Active participant in Kaggle & Devpost competitions (ARC Prize 2025, Trojan Horse Hunt, Tableau Next, GKE Hackathon, Red-Teaming OpenAI GPT-20b, Google Golf Championship, etc).
- Currently pursuing an Executive Master's in Data Science with specialization in ML and AI.

## Technical Skills

*Languages:* Python, SQL, R

*AI:* ML Algorithms, TensorFlow, PyTorch, Scikit-learn, BERT, LLMs (Phi-2, Llama 3), NLP, Regression, Recommendation Systems, Predictive Modeling, DSA (Data Structures & Algorithms)

*Explainability & Causal:* SHAP, LIME, Propensity Score Matching, Uplift Modeling, A/B Testing, Causal Inference, Hypothesis Testing

*BI & Visualization:* Tableau, Power BI, Excel, Streamlit

*Cloud & API Dev:* FastAPI, REST APIs, Railway, GKE, Hugging Face Spaces, GitHub

*Big Data & Engineering:* ETL, Big Data, Spark, Hadoop, Databricks, Data Warehousing, AWS, CTEs, Window Functions

*Business Domains:* Marketing Analytics, Forecasting, Customer Segmentation, Fraud Detection, Healthcare

## Professional Experience

### Professional career break – Pursuing Master's in Data Science

*University of the Cumberlands | 2024 – Present | Kentucky*

- Developed Retrieve–Rank–Explain LLM driven Recommendation system using Phi-2 and Llama that lifted user interaction by 20%.
- Deployed XGBoost + SHAP/LIME models for churn and fraud prediction, adding $1.2 M in annual CLV impact.
- Built and scaled A/B testing frameworks that cut deployment cycles by 20% and drove 5–7% uplift in key engagement metrics.
- Conducted causal inference studies on pricing changes, resulting in a 15% margin increase.
- Engineered an NLP-powered sentiment analysis model using BERT, enhancing customer feedback interpretation accuracy by 25%.
- Applied Deep Learning (CNN + Transfer Learning) techniques for product image classification, achieving 90%+ accuracy and improving model explainability with LIME.

### Business Analyst

*Agile IT Services | 2024 | Michigan*

- Led experimentation pipelines to evaluate product strategies, driving a 15% increase in conversions.
- Developed ML models for personalized recommendations, improving engagement by 20%.

### Business Analyst II

*Amazon | 2021 – 2024 | Michigan*

- Integrated Python–SQL pipelines reducing manual reporting by 300+ manual hours/year; Power BI/Tableau dashboards reducing manual reporting time by 50%.
- Collaborated with PMs and Engineers to define experimentation KPIs, speeding feature launches by 15%.

### EHS Specialist

*Amazon | 2019 – 2021 | Kentucky*

- Built interactive financial dashboards in Power BI that increased visibility into a $500 K+ department budget and reduce monthly reporting errors by 25%.
- Combined data from multiple internal systems with advanced SQL queries to automate Tableau incident-analysis reports, reducing data-retrieval time by 30%.

### Research Volunteer

*Western Kentucky University | 2019 | Kentucky*

- Statistical data analysis and hypothesis testing to identify key insights from large datasets.
- Automated recurring reports using SQL & ETL workflows, reducing manual workload by 40%.

## Education

- Executive Master's in Data Science, *University of the Cumberlands (2024 – 2026)*
- Executive MBA in Business Data Analytics, *Ottawa University (2022 – 2024)*

## Certifications

- Microsoft Power BI Data Analyst
- Tableau Business Intelligence Analyst

## Key Projects & Competitions

| Project | Description | Tools |
|---|---|---|
| *Amazon CNN Product Classification* | CNN-based product image classifier with Grad-CAM/LIME explainability and Streamlit deployment. | CNN, TensorFlow/Keras, LIME |
| *Fraud Detection with Explainable AI* | XGBoost + SHAP model deployed via Streamlit for real-time risk scoring. | Python, XGBoost, Streamlit |
| *LLM Retrieve–Rank–Explain Recommender* | LLM (Phi-2, Llama 3) with SHAP insights on Hugging Face. | RAG, LLM, Hugging Face |
| *LLM AutoPitchGPT* | AI system generating investor-style pitches from structured data using LLM reasoning. | LLMs, Python, Streamlit |
| *Netflix Revenue Predictor* | ROI forecast model with SHAP + Tableau dashboard. | XGBoost, Tableau |
| *IMDb NLP Sentiment Analysis with BERT + SHAP* | End-to-end sentiment pipeline using BERT, classical ML baselines, SHAP & LIME with Hugging Face deployment. | NLP, BERT, SHAP, LIME |
| *Trojan Horse Hunt (Kaggle competition)* | Backdoor model detection pipeline for ML security. | Python, NumPy |
| *Red-Teaming Challenge (OpenAI gpt-oss-20b) (Kaggle competition)* | LLM safety evaluation and behavior probing. | LLM Eval, AI Safety |
| *ARC Prize 2025 (Kaggle competition)* | Multi-solver reasoning framework for abstract generalization. | Meta-Learning, AI Reasoning |
| *Marketing A/B Testing + Conversion Prediction* | End-to-end A/B test analytics + ML conversion prediction using Logistic Regression with Streamlit UI. | A/B Testing, Logistic Regression, Streamlit |
| *Causal Inference - Amazon Marketing Effect Simulation* | DoWhy/CausalML-based uplift estimation with policy recommendations and Streamlit visual storytelling. | CausalML, DoWhy, Streamlit |

## Affiliations

- Member - Project Management Institute (PMI)
- Member - International Institute of Business Analysis (IIBA)
- Member - Institute of Electrical & Electronics Engineers (IEEE)
- Member - Society of Women Engineers (SWE)