

# AKUA SEKYIWAA OSEI-NKWANTABISA

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Akua is a dedicated data scientist with expertise in statistical modeling, machine learning, and deep learning. She applies her skills to solving real-world problems and shares knowledge through her **YouTube** and **Website**.

## EDUCATION

**University of Texas Rio Grande Valley** | Edinburg, Texas

Expected May 2025

M.S. Applied Statistics & Data Science

GPA: 4.0

- Relevant Coursework: Linear Algebra | Data Analytics | Statistical Methods | Deep Learning | Probabilistic & Statistical Learning

**University of Ghana** | Accra, Ghana

September 2018 – October 2022

Bachelor of Arts in Mathematics and Statistics

## SKILLS

**Languages:** Python, SQL, SAS, R, LaTeX

**Technologies:** PyTorch, TensorFlow, Scikit-learn, Matplotlib, Pandas, NumPy, Data Modeling, Machine Learning (ML), Deep Learning, Large Language Models (LLMs), Artificial Intelligence (AI), Amazon Web Services (AWS)

**Tools:** Tableau, Git and Github, Excel

## PROJECTS

**AI-powered Visual Decision Support for Antibiotic Usage**

University of Texas Rio Grande Valley

- Developing an AI-based decision support system to guide physicians in antibiotic prescriptions, with an integrated alert mechanism to flag potential overprescriptions, promoting safer treatments and supporting antimicrobial stewardship efforts.

**EchoMoods**

Hack the North

- Implemented Cohere's Command Model (Nightly) LLM in a full-stack application to enhance real-time speech recognition, emotion detection, and sentiment analysis, providing personalized feedback for users with communication challenges

**Classification and Prediction of Heart Diseases**

University of Ghana

- Developed and optimized machine learning models, including K-Nearest Neighbors, SVM, Neural Networks, and Logistic Regression, to predict heart disease, achieving 89% precision with the K-Nearest Neighbors model after extensive hyperparameter tuning.

## EXPERIENCE

**Course Instructor**, University of Texas Rio Grande Valley

August 2024 – December 2024

- Taught Elementary Statistical Methods to 16 undergraduate students, covering key statistical techniques such as descriptive statistics, inferential statistics, and probability, resulting in a 30% improvement in final exam scores.
- Achieved a 4.8/5 average student evaluation score by providing personalized guidance and fostering academic success in the Math Tutoring Lab.

**Graduate Research Assistant**, University of Texas Rio Grande Valley

May 2024 – August 2024

- Designed and developed a Convolutional Neural Network (CNN) model to predict solutions to Fractional Partial Differential Equations using advanced deep learning techniques for numerical approximation and analysis.
- Achieved high predictive accuracy with correlation coefficients of 0.975, 0.968, and 0.955 across three subsets, demonstrating the model's effectiveness and reliability.

## CERTIFICATIONS & HACKATHONS

- Introduction to Querying Databases, Coursera
- Google Advanced Data Analytics, Coursera
- Unesco-India-Africa Hackathon Finalist
- Fundamentals of Deep Learning, NVIDIA
- Data Science Foundations, LinkedIn
- Hack the North, Hacker

## LEADERSHIP

**Local Organizer**, Teens in AI Ghana

October 2022 – March 2023

- Organized a hackathon with over 60 participants from local schools and businesses, resulting in 15 innovative AI presentations addressing real-world challenges.
- Co-presented AI workshops for teenagers, teaching fundamental concepts and enhancing competitive presentation skills, receiving positive feedback from 90% of attendees.

**President**, University of Ghana Actuarial and Statistics Society

September 2021 – October 2022

- Secured \$1,400 in sponsorships, the highest in the organization's history, funding initiatives that enhanced student engagement and professional development.
- Led 10 impactful projects, including workshops, networking events, and competitions, resulting in a 50% increase in membership and creating a more vibrant campus atmosphere.

## HONORS AND AWARDS

- Best Model Performance-Advanced Category by ACCESS Support - SCIFE/CIP AI Mini-Hack (August 2024)