

Dominic Obeng Koranteng

Greater Accra, Ghana

nanaobengo87@gmail.com | +233 245 051 137 | github.com/dominickoranteng

Professional Summary

Master's graduate in Mathematical Sciences from the African Institute for Mathematical Sciences (AIMS), Ghana, with expertise in machine learning, statistical modeling, and data analysis. Proficient in Python, R, and LaTeX, with experience in developing supervised machine learning models and AI-driven prototypes, including a YOLOv8-based poultry monitoring system. Awarded first place at InnovAIMS Bootcamp 2025 for innovative AI solutions. Skilled in dataset curation, model evaluation, and technical documentation, with a passion for advancing AI applications in real-world contexts.

Education

Master of Science in Mathematical Sciences

Sept 2024– July 2025

African Institute for Mathematical Sciences (AIMS), Ghana

Bachelor of Science in Mathematics and Statistics

Sept 2018– October 2022

University of Ghana, Legon

Technical Skills

- **Programming & Tools:** Python (TensorFlow, scikit-learn, pandas, NumPy, Ultralytics, Flask), R, JMP, LaTeX, Jupyter
- **Machine Learning:** Supervised learning (random forests, linear regression, SVM, decision trees), model fine-tuning, hyperparameter optimization, model evaluation
- **Data Analysis:** Time-series analysis, statistical modeling, dataset curation, data visualization (Matplotlib, Seaborn)
- **AI Applications:** Prototype development, real-time monitoring systems, applied AI research

Research & Project Experience

M.Sc. Thesis: Modeling Mathematics Performance of Ghanaian Junior High School Students Using Supervised Machine Learning

May–June 2025

African Institute for Mathematical Sciences, Ghana

Supervisor: Dr. Bright Emmanuel Owusu, KNUST

- Developed a machine learning framework using random forests, linear regression, decision trees, and SVM to predict mathematics performance of 364 Ghanaian junior high school students.
- Performed feature engineering, model training, and evaluation, creating data-driven visualizations in Python to support educational interventions.
- Authored a LaTeX-formatted thesis, presenting findings to academic and practitioner audiences.

InnovAIMS Bootcamp: AI-Powered Poultry Monitoring System

July 2025

DPB PoultryTech, Ghana

- Designed a YOLOv8-based prototype for early disease detection using Raspberry Pi and IoT sensors.
- Implemented Python scripts with Ultralytics and Flask for real-time monitoring and farmer alerts via a dashboard.

- Awarded first place and GHS 20,000.00 for innovative prototype development at InnovAIMS Bootcamp 2025.

Statistical Analysis of Premix Fuel Prices in Ghana

June– September 2022

University of Ghana

- Conducted time-series analysis of fuel price data (2010–2021) from the National Petroleum Authority using R.
- Identified economic factors (e.g., exchange rates) influencing price fluctuations, producing interactive visualizations to inform policy recommendations.

Teaching Experience

Teaching Assistant, Department of Mathematics

Sept 2022 – August 2023

University of Ghana

- Facilitated tutorials in Algebra, Geometry, Calculus, Statistics, and Probability, enhancing student understanding through tailored problem sets.

A & AS Level Pure Mathematics & Statistics Tutor

Sept 2023 – June 2024

Mr. Michael's Learning Center, Accra

- Delivered in-person and online instruction, preparing students for university-level studies with customized learning modules.

Tutor, Mathematics and Integrated Science

September 2016– August 2022

Akdurance Academy & Star Academy

- Taught upper primary and junior high school students, fostering STEM interest through interactive and gamified lessons.

Leadership & Volunteer Work

Volunteer Elective Mathematics Tutor

July – August 2024

New Standard College, Kwahu-Nkwatia

- Designed interactive mathematics lessons, improving student performance in underserved communities.

Volunteer, African Math Initiative

March 2023

Kpone Senior High School, Ghana

- Led technology-driven sessions on abstract mathematical concepts, inspiring 30+ students to pursue STEM fields.

Academic Committee Member

2021–2022

University of Ghana, School of Statistics Society

- Advocated for inclusive curriculum development and organized workshops to promote statistical literacy.

Awards & Recognition

- First Place, InnovAIMS Bootcamp Pitching (DPB Poultry/Tech), 2025
- Full Scholarship Recipient, AIMS Ghana, 2024
- Best Agricultural Science Student, Suhum Presby SHS, 2016
- Most Well-Disciplined Student, Suhum Presby SHS, 2016