Emmanuel A. Atindama

Email | LinkedIn | GitHub | emmanuelatindama.github.io | **Toledo, OH**

Data Scientist | Statistical Scientist | Machine Learning Engineer | Problem Solver

Results-driven data scientist with 7+ years of experience in statistical modeling, data analytics, and machine learning. Expertise in statistical inference, experimental design, predictive modeling, Bayesian statistics, and risk analysis. Strong programming background with Python, R, SAS, and experience in data visualization, reliability analysis, and cloud computing.

Education:

Clarkson University – PhD, Applied Mathematics (GPA: 3.89/4.0)
Research Focus: Deep Learning, Image Processing, Statistics & Probability, Linear Algebra
Sep 2021 – Dec 2024 | Potsdam, NY
Clarkson University – MS, Applied Mathematics (GPA: 3.89/4.0)
Coursework: Machine Learning, Numerical Analysis, Probability, Statistics, Data Mining
Jul 2019 – May 2021 | Potsdam, NY
University of Ghana – BS, Statistics (GPA: 3.24/4.0)
Aug 2013 – May 2017 | Accra, Ghana

Publications

- *Crystallographic Data Restoration Using Weighted Total Variation Flow & Hybrid Deep Learning* – SIAM IS24
- *Advances in Parameter-Free Reconstruction of Grain Orientation Data* – SIAM MS24
- *Measuring the Impact of Student Success Retention Initiatives for Engineering Students* – **Frontiers in Education** (Dec 2022)
- *Restoration of Noisy Orientation Maps from EBSD Imaging* – **Integrating Materials and Manufacturing Innovation Journal** (Aug 2023)
- *Impact of Targeted Interventions on Success of High-Risk Engineering Students* – **Frontiers in Education** (Nov 2024)
- *Hybrid Algorithm for Filling in Missing Data in Electron Backscatter Diffraction Maps* – **Integrating Materials and Manufacturing Innovation Journal** (Approved 2025)

Selected Research Projects

- Crystallographic Data Restoration: Developed Python algorithms to enhance EBSD image reconstruction using Total Variation Flow and deep learning models.
- Noise Estimation in 3D Data: Built a volumetric noise estimation algorithm to improve material data accuracy.
- Real-Time Object Tracking & Drowsiness Detection: Built computer vision models for safety applications.
- Image Processing Web-app: Built a one-stop shop web application with flask using opencv and other customized functions to perform image processing tasks.

Technical Skills:

- Statistical Analysis & Modeling: Bayesian Statistics, Experimental Design, Survival Analysis, Regression, Reliability Analysis

- Programming Tools: Python (Pandas, NumPy, Scikit-learn), R, SAS, MATLAB, SQL
- Data Analytics & Visualization: OpenCV, Plotly, Matplotlib, Tableau, ggplot2
- Machine Learning & AI: TensorFlow, Keras, PyTorch, Scikit-learn, NLP
- Database & Cloud Computing: MySQL, SQLite, AWS, Pandas, Unix
- Version Control & Web/ Development: Git, Flask, Streamlit, Shiny

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Professional Experience:

Assistant Professor – Data Science and Statistics

University of Toledo | Aug 2024 – Present | Toledo, OH

- Designed and taught Introductory Python for Data Scientists, covering statistical programming and data manipulation.
- Developed and led courses on Data Visualization (Python-Streamlit & R-Shiny).
- Instructed SAS for Data Scientists, focusing on data cleaning, macro development, and statistical inference.
- Teaching Experimental Design and Statistical analysis for Data Scientists.

Statistician (Intern)

Regeneron Pharmaceuticals | May 2023 – Aug 2023 | Troy, NY

- Designed statistical experiments for bioassay drug efficacy tests.
- Conducted statistical risk analysis to improve change control management.
- Applied Design of Experiments (DOE) techniques to optimize lab tests using JMP.

Data Scientist

Clarkson University | Sep 2021 – May 2023 | Potsdam, NY

- Analyzed student retention & graduation data using SQL and R, identifying key influencing factors.
- Developed predictive models to improve student success initiatives using statistical inference tools.
- Presented findings to university administration, impacting policy decisions.

Machine Learning Engineer

National Coffee Corp. | Jun 2021 – May 2022 | Remote

- Developed a predictive model for food production & staffing using weather and foot traffic data.
- Mined and analyzed historical weather & sales data, performing feature selection for model training.
- Trained random forests, gradient boosting, and logistic regression models in Python.
- Reduced overstaffing and food waste by 30% within 3 months.

Robotics Research Fellow

Science Solutions | Jun 2017 – May 2019 | Accra, Ghana

- Improved product distribution timelines by developing and maintaining an up-to-date schedule and production store.
- Increased number of clients by optimizing workflow using data analytics to make room for new clients.

Certifications

- Python (Basic) Certification – HackerRank | ID: 447853C2B7BE
- SQL (Basic) Certification – HackerRank | ID: 5E588A452CF9