

ROSE ATUAH

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Professional Experience

Colorado State University Pueblo,
Colorado
Assistant Professor
08/2025-Till Date

- Delivering lectures in core Computer science and IT courses, including Database Management Systems (CIS350), Business Analytics (CIS250) and Management Information Systems (CIS 565) using real-world case studies.

Towson University | Towson, Maryland
Adjunct Faculty and Graduate Research
Assistant
08/2022 – 05/2025

- Conducted in-depth research in environmental predictive analytics using Big Data and Deep Learning models, contributing to scholarly articles and conference presentations.
- Collaborated on interdisciplinary research projects, applying AI-driven models for predicting hurricanes, forest fires, and the effects of video games on computer education.
- Delivered lectures in core Computer science and IT courses, including Fundamentals of Information Systems and Technology (CIS211), Database Management Systems (COSC457), and Cybersecurity (CIS377) using real-world case studies and innovative teaching methodologies.

Accra Institute of Technology | Accra,
Ghana.
Lecturer
08/2017 - 12/2021 (4years, 4 months)

- Delivered lectures across 3 subjects: (Computer Science1 CS101, Multimedia Application Systems Development IT109, and Human-Computer Interaction IT403)
- Engaged, motivated, and inspired students to develop a thirst for knowledge.
- Assisted departmental efforts to integrate emerging technologies into the curriculum, ensuring programs remained current and aligned with industry trends.

National University of Malaysia | Bangi,
Malaysia
Graduate Research Assistant
05/2015 - 08/2015 (3 months)

- Conducted advanced data preprocessing tasks, including data cleaning, aggregation, and transformation for machine learning applications.
- Applied data mining techniques and statistical analysis to predict outcomes using association rules and decision trees.
- Wrote technical reports summarizing research findings and collaborated on publications focused on the intersection of AI and personalized medicine.

Ghana Broadcasting Corporation
Manager of Technical Production
2016-2021

Ghana Broadcasting Corporation
Assistant Manager of Technical Production
2012-2016

- On call for the provision of technical production services
- Managed information technology and computer systems
- Aligned with user needs and system functionality to contribute to organizational policy
- Planned production services
- Prepared annual estimates and ensured cost effectiveness
- Identified problematic areas and implemented strategic solutions in time
- Ensured quality control measures in services
- Ensure the provision of technical production services
- Managed the training of staff, coached, and communicated job expectations.
- Counselling and monitored staff
- Appraised the performance of staff

Educational Background

Towson University | Towson, Maryland

[08/2020- 08/2025]

Doctor of Philosophy, Information Technology

Research: AI-Machine Learning/Deep Learning, Big Data, Environmental Predictive Analytics.

Thesis: Techniques for Predicting Tropical Cyclone Intensity and Track Using Artificial Intelligence

National University of Malaysia | Bangi, Malaysia

[02/2014]- [09/2015]

Master of Science in Computer Science (Software Technology)

Thesis: Prediction Using Association Rules Mining and Decision Trees (Data Mining).

Ghana Institute of Management and Public Administration | Accra, Ghana

[08/2008]- [09/2011]

BSc in Information and Communication Technology

Relevant Coursework: Database Management Systems, Systems Analysis and Design, Management Information Systems, Data Communication and Networks, Systems Administration and Security

Ghana Broadcasting Engineering Training School | Accra, Ghana

[06/2005]- [09/2005]

Certificate in Broadcast Technology

Sunyani Technical University | Sunyani, Ghana

[08/2000]- [09/2003]

Higher National Diploma in Electrical Electronics Engineering

Relevant Coursework: Power Electronics, Digital Electronics, Telecommunication Systems.

License/Honors

- Scrum Master – Certified 01/2024
- CompTIA Cybersecurity Plus- Certified 02/2024

Research Interests

- AI/ML/DL
 - Big Data
 - Cybersecurity
 - Emerging technologies such as IoT.
- Health Informatics

Volunteer

Ghana Prison Service: Part of Feasibility Study for the Design and Implementation of a Database Management System-2017

IEEE-ICMLA-2023: Program committee member (Reviewer of research articles)

Publications

Accepted: Predicting Wildfire Spread with Attention U-Net. A Multi-Feature Geospatial Deep Learning Approach. **ICMLA 2025**

Accepted: Conditional Wasserstein Generative Adversarial Networks –Gradient Penalty for the Prediction of Tropical Cyclone Track and Intensity. **ICDATA2025**

2025(IEEE): Attention-Driven Separable Convolutional Networks for Efficient and Explainable Forest Fire Detection: ForestFlameNet. **SERA2025**

December 2022(IEEE): Review of Video Games and Simulation in Computer Science Education (The 2022 International Conference on Computational Science and Computational Intelligence, **CSCI-RTED**).

December 2015: Artificial Intelligence in Personalized Medicine: Application of AI Algorithm in Solving Personalized Medicine Problems (**IJCTE 2015 Vol.7(6)**).

July 2024: Transforming Hurricane Intensity Prediction: Leveraging Transformers for Enhanced Forecasting Accuracy (20th International Conference on Data Science, **ICDATA'24**).

December 2023: Tropical Cyclone Intensity Forecasting Using Deep Learning (22nd International Conference on Machine Learning and Applications, **IEEE-ICMLA'23**).

Under Review: Multi-task learning System for Hurricane Genesis Prediction on Multi-Modal Data

Under Review: On the need for attention mechanism for TC forecasting: A comparative study on Multi-Layer Perceptron and Transformer Network

Awards

Research Assistantship Award- April 2022
Dept. of Comp. and Info. Science (TU)

Summer Research Award- June 2022
Dept. of Comp. and Info. Science (TU)

Doctoral Research Fellowship-Aug 2022-May 2023
Towson University

Spring Doctoral Student Scholarship -Jan 2025
Dept. of Comp. and Info. Science (TU)

Professional Membership

Institute of Electrical and Electronics Engineers (IEEE)