Mercy Amankwah

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Summary

- Effective communicator with demonstrated ability to present scientific data and concepts to technical and non-technical audiences. Delivered 28 conference and seminar presentations worldwide.
- Growth-oriented multidisciplinary research scientist with a strong background in musculoskeletal modeling and quantum algorithms. Published 4 journal articles and contributed to the development of open-source software.
- Demonstrated advanced proficiency in leveraging mathematical and statistical modeling skills to develop cutting-edge algorithms in MATLAB and Python, showcased through the creation of 3 software packages tailored for quantum image processing and biomedical research, driving forward impactful advancements in data analysis and model innovation.

Work Experience

Instructor and Graduate Assistant — August 2019 to Present

CWRU

- Successfully managed multiple projects as an instructor of record while pursuing Ph.D. studies.
- Demonstrated strong organizational and time management skills, balancing teaching responsibilities and research commitments.
- Developed a muscle recruitment package based on Bayesian Statistics in MATLAB.

Quantum Applications Scientist Intern — June 2023 to August 2023

IONQ

- Selected as 1 of 13 interns hired and 1 of the 4 interns on the Quantum applications team, contributing scientific expertise and business acumen.
- Collaborated effectively with cross-functional teams to drive innovative projects and deliver results aligned with company goals.
- Implemented a hybrid classical quantum neural network model in python.

Quantum Algorithms Intern — June 2022 to August 2022

National Energy Research Scientific Computing Center

- Led the development of an efficient implementation of a quantum circuit for state preparation in just 8 weeks.
- Published an article and contributed to the new version of QPIXL software showcasing technical expertise and innovation.

Research Intern June 2021 to August 2021

Lawrence Berkeley National Laboratory

- Developed a novel framework for loading image data for quantum algorithms resulting in the development of open-source software and publication of an article.
- Effectively communicated research findings through 28 presentations at conferences, locally and internationally.

Education

PhD in Applied Mathematics August 2019 to Present

Case Western Reserve University (CWRU)

- Thesis: Bayesian Analysis of Muscle Recruitment Patterns in Locomotion
- Modeling and statistical analysis of scientific data and concepts to produce meaning and practical solutions as documented in 2 publications and Muscle Recruitment software package.
- Collaborated effectively with a cross-functional team to advance muscle recruitment research using Bayesian analysis and biomechanics, resulting in 2 publications and a software package.

MSc in Mathematics August 2018 to May 2019

Montana State University

MPhil in Scientific Computing and Industrial Modeling September 2016 to July 2018

Kwame Nkrumah University of Science and Technology, Ghana

- Thesis: Comparative analysis of image deblurring methods on a test image

B.Sc. in Mathematics September 2012 to May 2016

Kwame Nkrumah University of Science and Technology, Ghana

- Thesis: Modeling and Simulation of In-crib drying of ear maize; A case study of Sunyani-West District, Ghana

Skills List

Teamwork & Collaboration	Podium Presentations	Data Analysis
Scientific and Technical Writing	Open-source software development	Image processing

Hobbies

Hiking at national parks

Travel enthusiast