Olaoluwa Ogunleye

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EDUCATION

Clarkson University   *New York*

PhD, Applied Mathematics   **Fall 2021 – Spring 2026**
- Research: Stochastic Differential Eq, Machine Learning, Data Science, Quantum Computing

*MS, Applied Mathematics – GPA **3.91/4.0***   **Fall 2021 – Spring 2023**
- Coursework: Machine Learning, Statistics, Data Mining, Database Systems, Numerical Analysis

University of Rijeka   **Fall 2020 – Spring 2021**
Study Abroad – Artificial Intelligence, Graph Theory, Cryptography & Coding Theory   *Rijeka, Croatia*

University of Lagos   **Fall 2014 – Fall 2018**
*BS, Mathematics – GPA **3.70/4.0***   *Lagos*
- Coursework: Computational Methods, Data Analytics, Algorithms, Linear Algebra

SKILLS

- Programming (Python, Java, JS, Matlab, C++, Julia, React, Redux, Visx, Go, Django)
- Data Analytics and Visualization (R, MySQL, Pandas, Numpy, Matplotlib)
- Machine Learning (Text Mining, Recommender Systems, Speech Recognition)
- Applied Maths (Time Series, Numerical Methods, Differential Equations, Probability)

WORK EXPERIENCE

National Renewable Energy Laboratory – US Department of Energy (DOE)   **Summer 2023**
Data Scientist Intern, PhD   *New York*
- Developed probabilistic forecasting methods and optimization algorithms for wind power generation using NREL data sets, machine learning tools, HPC systems, and Python.
- Built stochastic differential equation models to model wind speed using open source data, Julia SDE APIs, Github, Jupyter, and Conda Virtual Environments.
- Collaborated with NREL staff and researchers to advance the development of renewable energy technologies using stochastic optimization, uncertainty quantification, and probabilistic forecasting.

BlackRock   **Summer 2022**
Software Engineer Intern   *San Francisco*
- Built a scalable and efficient backend framework consisting of multiple APIs that process large amounts of data in real time by collecting 100,000+ data score files using Python, Django, and JavaScript.
- Developed API for constructing master dataset using Python, Pandas, and Matplotlib to clean, transform, and aggregate the data into a master dataset. The API was used to make the data easily accessible to other engineers and analysts.
- Developed front-end panel component for data visualization using React, Redux, and D3.js to create a user-friendly panel component that allowed users to visualize the data in a variety of ways that helped portfolio managers understand the data.

Clarkson University   *New York*
Software Engineering TA   **Fall 2022**
- Led an 8-week intensive software engineering boot camp for 30+ graduate students, collaborating with NSBE (*National Society of Black Engineers*) and CUGSA (*Clarkson University Graduate Student Association*) to provide resources and support to students from underrepresented groups.
- Introduced core programming fundamentals to students, including classes, objects, linked lists, hashmaps, and queues, and helped students develop their coding skills and problem-solving abilities.

Machine Learning Researcher   **Spring 2022**
- Developed a logistic regression model to predict mood from exercise type with 97% accuracy, using R, Numpy, Pandas, and Matplotlib to clean and analyze data, results showed that different exercise types have different effects on mood.
- Conducted data cleaning, descriptive and statistical analysis, and nonparametric tests to show that females have a higher mood reaction to exercise than males using R, MySQL, and probability theory.
- Developed a 98.6% accurate person detection algorithm using a Histogram of Oriented Gradients (HOG) features extracted from images to train a classifier in Matlab, Python, Scikit-Learn, and OpenCV.

Utiva Inc   **Summer 2020**
Product Manager Intern   *Remote*
- Collaborated with UX/UI experts and marketing teams to develop strategies that resulted in a 10% increase in sales and a 5% improvement in product satisfaction.
- Conducted user research to understand user behavior and identify trends in the business using surveys, interviews, and A/B testing which led to the development of a new feature that was well-received by users

Anchor University   **Aug. 2019 – Mar. 2020**
Research Assistant   *Lagos*
- Organized and managed regular office hours on applied statistics, helping 20+ graduate students perform statistical analysis of their diverse research work, resulting in a 10% increase in exposure to multiple interdisciplinary research.
- Collaborated with CS and Maths faculty to manage the IEEE conference on the future of computing, ensuring smooth operations and a successful event.

LEADERSHIP

- President – Society for Industrial and Applied Mathematics Clarkson Chapter (SIAM)
    - Raised **$7,500+** in travel grants for 4 members by helping them apply to SIAM and NSF-funded conferences.
    - Reactivated the club, increased active registered members by 150%, and created a safe space research collaboration.
- Ex-President – Association of Women in Mathematics Clarkson Chapter (AWM)
    - Reactivated the club, increased active registered members by 300%, and created a safe space for women in maths.
    - Organized outreach to grade 7-12 students in a Pi Day event celebrating the infinite possibilities of Pi.
    - Raised **$6,500+** in travel grants for four members by helping them apply to AWM and NSF-funded conferences.
- Member – National Society of Black Engineers Clarkson Chapter (NSBE)
    - Led an 8-week intensive software engineering boot camp for 30+ graduate students, collaborating with NSBE (*National Society of Black Engineers*) and CUGSA (*Clarkson University Graduate Student Association*) to provide resources and support to students from underrepresented groups.
    - Introduced core programming fundamentals to students, including classes, objects, linked lists, hashmaps, and queues, and helped students develop their coding skills and problem-solving abilities.
- Member – Clarkson University Graduate Student Association (CUGSA)
- Member – Clarkson Open Source Institute (COSI)
- Member – Google Developers Club

Travel Research Grants

- ***$1,750** National Science Foundation (NSF) and SIAM Student Travel Award 2023* – Grant DMS-2233032
- ***$500+** IPAM Student Travel Award 2023* – NSF-funded Institute for Pure and Applied Mathematics (IPAM)
- ***$500+** SIAM Student Travel Grant 2023* – MPI Workshop and Graduate Student Mathematical Modeling Camp (GSMMC)
- ***$500** Sylvia T. Bozeman Predoctoral Fellowship Grant* – Mathematically Gifted and Black (MGB)
- ***$400** SIAM-NNP 2023 Travel Award* – New Jersey Institute of Technology (NJIT)
- ***$400** Graduate Student Travel Grant* – Clarkson University Graduate Student Association (CUGSA)

AWARDS

- *Award of Commendable Service* – Clarkson University Phalanx
- *Black Excellence Award* – by Clarkson University Diversity, Equity, and Inclusion Office
- *PhD Scholarship and Teaching Assistantship* – Clarkson University
- *Study Abroad Scholarship* – by EU financed through the [European Social Fund OPTILIFE project](#)
- *BS Presidential Award of Academic Excellence* – University of Lagos
- *Award of Academic Excellence* – First Class Foundation University of Lagos

TECH PROJECTS

Stack: Python, OpenCV, Sklearn, NLTK, Pandas, Numpy, Matplotlib
- **Face Recognition** (CV): Built a Real-Time Face Mask Detection System predicting whether or not a person wears a mask
- **Spam Detection** (NLP)**:** Developed an SMS classifier that returns with a level of accuracy if a message is spam or not
- **Recommender System**: Built a movie recommendation engine that predicts content based on user's preference

RESEARCH & PUBLICATIONS

Stack: Time Series, CNN, Statistics, Feature Engineering, Numerical Methods, Image Understanding

- [Use of Particle Filtering to Clarify Impure Models and Data](#) - GSMMC Reports
- *[On fixed point algorithms for solving split inverse problems with applications](#)* – Journal of Applied Set-Valued Analysis & Optimization
- *[Mood Responses to Various Exercise Types Using the Ontological Definitions of Exercise](#)* – International Journal of Exercise Science
- *[Solution of split inverse problems using fixed point iterations](#)* – ICIAM2023 poster acceptance (Tokyo, Japan)
- *[Mood Responses to Various Exercise Types Using the Ontological Definitions of Exercise](#)* – JSM2023 Posters Acceptance
- *[Data-Driven Prediction of Mood Response to Exercise Types](#)* (Supervisor: Dr. Sumona Mondal)
- [Successive Substitution Method – Numerical Analysis](#) (Supervisor: Dr. Olaniyi Iyiola)
- [Orthogonal Complements and Minimization Problems](#) (Supervisor: Dr. Olaniyi Iyiola)
- [Convolutional Neural Network – Data Driven Science](#) (Supervisor: Dr. Abd Al Rahman Al)
- [Image Processing: Application of Matrix Theory and Computation](#) (Supervisor: Dr. Olaniyi Iyiola)
- [Some Fixed Point Theorems and Their Applications](#) (Supervisor: Prof. J. O. Olaleru & Dr. Hallowed Olu)
- [Successive Over-Relaxation and Ill-Conditioned Systems](#) (Supervisor: Dr. Julius Ehigie)

CONFERENCES & WORKSHOP

- 1st SIAM New York-New Jersey-Pennsylvania Section (2023 Annual Meeting) – New Jersey Institute of Technology
- 10th International Congress on Industrial and Applied Mathematics (ICIAM 2023) – Waseda University, Tokyo, Japan
- 2023 Applied Mathematics skills Improvement for Graduate studies Advancement (AMIGAs) hosted by the Institute for Pure and Applied Mathematics (IPAM) – University of California, Los Angeles (UCLA)
- 2023 Graduate Student Mathematical Modeling Camp – University of Delaware
- 2023 Mathematical Problems in Industry Workshop (MPI) – New Jersey Institute of Technology (NJIT)
- 49th Annual Convention of the National Society of Black Engineers (NSBE49) – Kansas City, Missouri.
- 2022 Workshop on Methods for Three-Dimensional Microstructure Studies – Carnegie Mellon University
- IEEE 2020 Conference on Mathematics, Computer Science & Computer Engineering – Anchor University, Lagos
- Statistical Techniques for Collecting and Analyzing Research Data – LISA 2020 conference
- 2018 endow-Africa Technology Development Workshop on IoT, transport networks & access networks (4G, 5G)
- 2nd International Institutes of Digital Cultures and Scholarships (LSSDH 2018) – University of Lagos
- 2018 KOBO Creative Digital Techies Workshop on Predictive Analytics and Digital Humanities