Anjolaoluwa Popoola

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RESEARCH INTERESTS

My research focuses on developing and utilizing advanced machine learning algorithms and methodologies to unravel complex patterns within high-dimensional datasets to solve prevalent healthcare and social welfare challenges.

EDUCATION

Georgia Institute of Technology, Atlanta, GA

- Ph.D. in Machine Learning — Expected May 2025
  Minor in Health Systems Leadership
- MSc. in Operations Research — August 2019 — May 2021

Lincoln University of PA, Oxford, PA

- BSc. in Mathematics **GPA:** 3.86/4.0 — August 2015 — May 2019

PUBLICATIONS

Journal paper
Published

- **Popoola, A.**, Frediani, J., Hartman, T. and Paynabar, K. (2023). 'Mitigating underreported error in food frequency questionnaire data using a supervised machine learning method and error adjustment algorithm.' Georgia Institute of Technology, Emory University, GA, USA. BMC Medical Informatics and Decision Making Journal. DOI: 10.1186/s12911-023-02262-9

Work In Progress

- **Popoola, A.**, Kazemian, P., and Paynabar, K. 'Personalized Prediction and Control of Blood Glucose Levels using Dynamic System Modeling.' Georgia Institute of Technology, Case Western Reserve University, USA.
- **Popoola, A.**, Bugg, C., Garcia, G., and Paynabar, K. (2024). 'Reducing Homelessness Among Foster Care Youth: A Predictive Approach Using Ensemble Methods'. Georgia Institute of Technology, Atlanta, GA, USA.

Digital Publication
Published

- Owosela B., **Popoola, A.**, Kedar S. (2024). 'Generative Adversarial Networks in Ophthalmology'. Emory University, Georgia Institute of Technology, Atlanta, GA, USA. North American Neuro-Ophthalmology society. ARK: ark:/87278/s6nshzwq

RESEARCH EXPERIENCE

Georgia Institute of Technology — Atlanta, GA
H. Milton Stewart School of Industrial and Systems Engineering

- Doctoral Thesis (2021 - Present): Novel Machine Learning Approaches with Applications in Healthcare and Social Welfare
  Research Advisor: Dr. Kamran Paynabar
- Research Project(2022-Present): Personalized Monitoring and Prediction of Blood Glucose Levels Using Dynamic System Modeling
  Research Advisors: Dr. Pooyan Kazemian and Dr. Kamran Paynabar
- Research Project (2023- Present): Reducing Homelessness among Foster Care Youth: A Predictive Approach using Ensemble Methods
  Research Advisors: Dr. Kamran Paynabar and Dr. Gian-Gabriel Garcia
- Master Modeler Competition(2022): Solving the Prevalent Foster Care Issue using Interpretable Machine Learning Methodology

Boston Children's Hospital — Boston, MA
Urology

- Research Project (2023): Detection of Kidney Abnormalities in Ultrasound Scans Using Deep Learning
  Advisors: Dr. Michael Li and Dr. Scott Wang

University of Delaware Newark, DE
Department of Animal and Food Sciences

- Research Project (2017): Prevention of Listeria Monocytogenes Transmission from Biofilm to Produce
  Advisor: Dr. Rolf Joerger

Lincoln University of PA Oxford, PA
Department of Mathematics

- Research Project (2018-2019): Construction of Clique of K-hypergraphs in Commutative Ring
  Research Advisor: Dr. Jawahar Pathak

TEACHING EXPERIENCE

Georgia Institute of Technology Atlanta, GA
H. Milton Stewart School of Industrial and Systems Engineering

- Graduate Student Instructor, Statistics and Applications — Spring 2025
- Guest Lecturer, Probability with Applications — Summer 2024
- Graduate Teaching Assistant, High Dimensional Data Analytics — Spring 2024 — Present
- Graduate Teaching Fellow — Fall 2023 — Present
  Center for the Integration of Research, Teaching and Learning Associate Certificate
- Graduate Teaching Assistant, Statistics and Applications — Fall 2019 — Spring 2020

Lincoln University of PA Oxford, PA
Department of Mathematics

- Undergraduate Teaching Assistant, Calculus III — Spring 2019
- Undergraduate Teaching Assistant, Calculus I — Spring 2017 — Fall 2018
- Undergraduate Mathematics Peer Tutor — Fall 2016 — Spring 2019

INDUSTRY EXPERIENCE

Boston Children's Hospital Atlanta, GA
PhD Research Intern May 2034 — August 2023

- Designed and implemented a deep learning model to efficiently and optimally detect abnormalities in ultrasound urology scans while reducing the amount of time needed for scans.
- Collaborated with Harvard University professors to create an optimal decision tree machine learning model to identify current morbidity rates and probability in pediatric surgery at Boston Children's Hospital and identify potential root causes and areas of improvement

Goldman Sachs Atlanta, GA
Operations Analyst Intern June 2020 — August 2020

- Designed an algorithm to increase efficiency in finding and reducing duplicate accounts in large and messy data
- Created a consolidated database containing coverage table, operational challenges, achievable solutions and training documents to increase productivity and ensure easier access to important documents within the Fixed Income Securities Sales Team

Summer Institute for Emerging Managers and Leaders UC San Diego, CA
Student Program Coordinator May 2019

- Mentored and aided students in the completion of case study assigned by Booz Allen Hamilton
- Created day-to-day content for students and increased social media engagement by 75%

Industrial and Systems Engineering Diversity, Equity and Initiative Program Atlanta, GA
Graduate Student Assistant August 2021 — December 2021

- Planned and executed virtual events in which current graduate students presented their research to undergraduate students across the country

MENTORSHIP EXPERIENCE

Georgia Institute of Technology Atlanta, GA
H. Milton Stewart School of Industrial and Systems Engineering

- George Fellows Leadership Program, Mentor — August 2021— May 2022

Lincoln University of PA Oxford, PA
Department of Mathematics

- Horace Mann Bond Honors program, Peer Advisor — September 2016 — April 2017

HONORS AND AWARDS

Tippie College of Business, University of Iowa Iowa City, IA

- Future BA Prof Program Fellow, August 2024

Purdue University West Lafayette, IN

- Trailblazers in Engineering Fellow, May 2023

Georgia Institute of Technology Atlanta, GA

- Graduate Retaining Inspirational Scholars in Technology and Engineering Fellow, Fall 2023 - Present
- George Wally Leadership Fellows, Fall 2020 - Spring 2020

Darla Moore School of Business, University of South Carolina Columbia, SC

- Master Modeler Competition, Bronze, March 2022

Lincoln University of PA Oxford, PA

- Summa Cum Laude Degree in Mathematics, May 2019
- Dwight David Eisenhower Transportation Fellowship, October 2018
- Best Student Poster Award, Transportation Research Board Conference, April 2018
- John M. Tutt Award for Best Student in Mathematics, April 2018
- Finalist for Lincoln University Science Fair Presentation, October 2017

International Association of Black Actuaries Atlanta, GA

- International Association of Black Actuaries Boot Camp Fellow, July 2018

University of California, Berkeley Berkeley, CA

- Summer Institute for Emerging Managers and Leaders Fellow, May 2018

CONFERENCES

Conference Talks

- Personalized Prediction and Control of Blood Glucose Levels using Dynamic System Modeling
  - INFORMS 2024 Annual Meeting, Seattle, WA, 2024
- Bridging Dreams and Realities: iExperience High School Initiative Introducing Students to Industrial & Systems Engineering at Georgia Tech
  - Southeastern College Learning Center Association Conference, NC, 2024
- Reducing Homelessness Among Foster Care Youth: A Predictive Approach Using Ensemble Methods
  - Workshop on AI and Analytics for Social Good, MD, 2023
- Mitigating Underreported Error in Food Frequency Questionnaire Data Using a Supervised Machine Learning Method and Error Adjustment Algorithm
  - INFORMS 2023 Annual Meeting, Pheonix, AZ, 2023
  - IISE 2023 Annual Meeting, New Orleans, LA, 2023
- Creating an Inclusive Classroom Learning Experience
  - INFORMS 2022 Annual Meeting, Indianapolis, IN, 2022

Poster Presentations

- Mitigating Underreported Error in Food Frequency Questionnaire Data Using a Supervised Machine Learning Method and Error Adjustment Algorithm
  - Trailblazers in Engineering Program, West Lafayette, IN, 2023
- Farm Area Rapid Transit: A Case for Poultry Powered Transportation
  - Transportation Research Board Conference, Washington, DC, 2019
- Prevention of Listeria Monocytogenes Transmission from Biofilm to Produce
  - Lincoln University Science Fair, Oxford, PA, 2017
  - University of Delaware Undergraduate Research Symposium, Newark, DE, 2017

SERVICE AND PROFESSIONAL ACTIVITIES

IISE 2023 Annual Meeting New Orleans, LA

- Session Chair, Machine Learning and Classification Models for Health Data, May 2023
- Member of the Institute of Industrial and Systems Engineers, August 2022 - Present

INFORMS 2023 Annual Meeting Pheonix, AZ

- Session Presenter, Prediction and Data Mining in Healthcare, October 2023
- Member of the Institute for Operations Research and the Management Sciences, August 2022 - Present

INFORMS Georgia Institute of Technology Chapter Atlanta, GA

- Vice President, September 2022 - May 2024

Georgia Institute of Technology Atlanta, GA

- Vice President, INFORMS Georgia Tech Chapter, September 2022 - Present
- Graduate Student Speaker and Volunteer, Data Science for Social Good, October 2020
- Graduate Student Volunteer, FOCUS Program, January 2020

Lincoln University of PA Oxford, PA

- Senator, Class of 2019 Student Government Association, April 2016 - April 2018
- Programs Chair and Senator, National Society of Black Engineers (NSBE), September 2017 – May 2018
- Secretary, The Mathematics Club, September 2016 - May 2017

SKILLS

- **Technical Skills:** Python, R, MATLAB, Julia, SIMIO, ExperFit, Tableau, Alteryx, Time Series Analysis, Exploratory Data Analysis, Predictive Data Analysis, Deep Learning
- **Languages:** English, Yoruba, German