

NIYEM M. BAWANA

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EDUCATION

Ph.D. student in Electrical Engineering, Georgia Tech	Expected May 2025
	GPA: 3.51/4.00
Master of Science in Mechanical Engineering, New Mexico Tech	June 2021
	GPA: 3.62/4.00
Master of Science in Electrical Engineering, University of South Florida	August 2019
	GPA:3.75/4.00
BSc. in Applied Physics, University of Lomé	

SUMMARY

Ph.D. student in electrical engineering with passion and research experience in data science and machine learning. Possesses strong analytical skills, a talent for problem-solving, and a commitment to driving innovation through data-driven insights. I am currently looking for Co-Op or Internship roles. ‘

SKILLS

- Demonstrated analytical problem-solving with adaptability to manage ambiguity.
- Experience working with large, distributed data sets to derive actionable insight.
- Ability to manipulate and analyze complex, high-volume, high-dimensional data from various sources.
- Advanced skills and experience in Tableau, R, Python, SQL, PySpark, and PyTorch framework.
- Ability to design, build, and maintain business reporting and dashboards, ensuring data integrity and accuracy.
- Data mining and statistical modeling (e.g., regression modeling, clustering techniques, decision trees, etc.).
- Building predictive and descriptive statistical models advanced Artificial Intelligence (AI) and Machine Learning (ML) algorithms.
- Experience with Version Control (Git) and Utilization of Linux OS (Ubuntu).
- Instrumentation and Measurement
- Analog electronics design and troubleshooting
- Circuit analysis and simulation
- Hardware testing and verification
- Willing to brainstorm innovative ways to use data to answer business problems.
- Excellent collaboration skills that promote a positive team environment by modeling continuous learning behavior.
- Excellent organizational skills, attention to detail, and ability to work independently and as a team member.
- Interpersonal communication and ability to leverage the data to tell a story.
- curious and willing to continuously learn about the business.

PROJECTS

Enhancing Carbon Fiber Nondestructive Evaluation via THz Imaging and AI <i>Research Assistant</i>	Georgia Tech, Atlanta <i>August 2021 to present</i>
<ul style="list-style-type: none">• Conducted research on improving carbon fiber nondestructive evaluation using THz imaging and AI at Georgia Tech.• Advanced data cleaning techniques and feature engineering were applied to improve the accuracy in material thickness estimation.• Developed and trained machine learning algorithms specifically for thickness estimation of materials.• Achieved significant improvements in accuracy, contributing to the advancement of nondestructive evaluation techniques for carbon fiber materials.	
Vehicle Image Classification on Unbalanced Dataset, Group Project <i>Machine Learning Course</i>	Georgia Tech, Atlanta <i>Spring 2023</i>
<ul style="list-style-type: none">• Participated in a group project on vehicle image classification using an unbalanced dataset during a Machine Learning course at Georgia Tech.• Contributed to data cleaning, exploration, and analysis of unbalanced vehicle data.• Collaborated with classmates to develop and train a neural network, achieving a remarkable 98% accuracy in classifying vehicles.• Successfully addressed the challenges posed by an unbalanced dataset, demonstrating strong teamwork and technical skills in machine learning.	
Interactive Visualization of Chicago Bike-Share System with Divvy Data, Group Project <i>Data Visualization and Analytics Course</i>	Georgia Tech, Atlanta <i>Spring 2023</i>
<ul style="list-style-type: none">• Engaged in a group project focused on creating interactive visualizations of parking tickets in New York City during a Data Visualization and Analytics course at Georgia Tech.	

- Developed an interactive data visualization map using specialized tools for data visualization.
- Presented insightful visualizations that provided valuable information for stakeholders and investors in the bike-share business.
- Received positive feedback for delivering actionable insights through interactive data visualization, demonstrating proficiency in data analytics and communication skills.

Power Systems Dynamic State Estimation, Spring 2022

Georgia Tech, Atlanta

- Part of a team tasked with improving power systems protection through dynamic state estimation.
- Develop optimized algorithms for dynamic state estimation in power systems.
- Contributed to the development of algorithms enhancing the accuracy and efficiency of power system protection.
- Achieved an optimized solution for dynamic state estimation, improving power system reliability.

Swarming Drones: Bioinspiration and Energy Saving Opportunities, Aug. 2019–June 2021

New Mexico Tech

- Investigated energy-efficient drone swarming techniques.
- Apply optimization techniques to enhance energy efficiency in drone swarms.
- Researched bio-inspired behaviors and energy-saving strategies for drones.
- Developed optimized positioning techniques, leading to significant energy savings and a successful thesis defense.

Characterization of Local Stoves in Togo, University of Lomé, Togo, 2016

University of Lomé, Togo

- Engaged in assessing the efficiency of local stoves.
- Conduct experimental data collection and analysis for different stove types.
- Performed efficiency analysis for various stove designs.
- Provided insights into stove efficiency, aiding in the development of sustainable cooking solutions.

RELEVANT COURSEWORK AND CERTIFICATIONS

- Machine Learning (Coursework)
- Data visualization & Analytics (Coursework)
- Capstone: Retrieving, Processing, and Visualizing Data with Python
- Introduction to Business Analytics (Certificate)
- Foundations: Data, Data, Everywhere (certificate)
- Supervised Machine Learning: Regression and Classification (certificate)
- Neural Networks and Deep Learning (certificate)
- Unsupervised Learning, Recommenders, Reinforcement Learning (certificate)
- Advanced Learning Algorithms (certificate)
- Structuring Machine Learning Projects (certificate)
- Python Data Structures (certificate)

AWARDS

- **Fulbright Scholarship:** U.S. Department of State, 2017–2019. Prestigious scholarship awarded for academic excellence and international exchange.
- **Pafroid Scholarship:** European Union funded fellowship, 2015. Merit-based scholarship recognizing innovative ideas in the field of science and engineering for developing countries. I spent a year at Stellenbosh University's Department of Mechanical Engineering.
- **Global Achievement Awards,** University of South Florida, Tampa, 2018.

PROFESSIONAL MEMBERSHIPS

- **IEEE:** The Institute of Electrical and Electronics Engineers.
- **ASME:** The American Society of Mechanical Engineers.
- **ASTN:** The American Society for Nondestructive Testing.
- **NSBE:** The National Society of Black Engineers.