

MICHAEL OLOWE | +1(336)-508-7893 | olowemikel@gmail.com

EDUCATION

North Carolina A&T State University, Greensboro, NC
PhD, Industrial & Systems Engineering, GPA: 4.0/4.0
Expected: May 2025

- Conducting research focused on the integration of additive manufacturing (AM) technologies in industrial processes with an emphasis on predictive analytics and acoustic signature analysis.
- Investigating the role of machine learning algorithms in enhancing the efficiency and quality control in AM, with applications to sectors such as healthcare (microneedles) and electronics.
- My research also includes utilizing advanced computational techniques, such as molecular dynamics simulations, to model deformation mechanisms in nanofabrication processes.
- Relevant coursework includes: Statistical Process Control, Machine Learning for Manufacturing, Advanced Additive Manufacturing, Digital Twin Technologies, and Industrial Systems Design.

University of Lagos, Akoka, Lagos, Nigeria
Advanced Diploma in Business Administration
January 2020

- Focused on strategic management, organizational behavior, and financial management, which have been pivotal in shaping my leadership capabilities.
- Gained practical skills in project management, market analysis, and leadership in the context of the business side of engineering, particularly related to manufacturing and supply chain management.

University of Ibadan, Ibadan, Nigeria
BSc, Mechanical Engineering, GPA: 3.64/4.0
Graduated: April 2014

- Recognized for academic excellence, consistently achieving placement on the Dean's Roll of Honor in 2009, 2011, and 2012.
- My undergraduate research focused on the optimization of mechanical systems for performance improvement, with applications in sustainable energy systems and manufacturing.
- Coursework included: Thermodynamics, Material Science, Engineering Design, Advanced Fluid Mechanics, and Manufacturing Processes.

Relevant projects: Design of a low-cost, energy-efficient heat exchanger and optimization of material flow in manufacturing processes.

PROFESSIONAL MEMBERSHIPS

Corporate Member, NIPES (Nigeria Institute of Professional Engineers & Scientist)

- A member of the national body representing engineers and physicists working on advancing technology in engineering, manufacturing, and science. Actively participating in initiatives for the development of new manufacturing technologies and systems.
- Contribution to seminars and technical sessions focused on the integration of new technologies in Nigeria's manufacturing sector.

Member, ASME (American Society of Mechanical Engineers)

- A committed member of ASME, contributing to discussions and forums surrounding the advancement of mechanical engineering, particularly in additive manufacturing and advanced manufacturing processes.
- Attending annual ASME conferences to network with thought leaders in mechanical engineering and stay up-to-date with the latest innovations in design and manufacturing.

Life Member, Junior Chamber International, University of Ibadan

- A lifelong member of this international organization that focuses on the leadership development of young people, building an active community of professionals committed to social development, and creating positive change.
- Played an instrumental role in planning events and initiatives aimed at improving community life and promoting youth involvement in societal development.

Corporate Member, Junior Chamber International, Ibadan

- Corporate member involved in coordinating professional development programs and community-oriented initiatives. Focused on leadership training, social entrepreneurship, and sustainable development within the corporate sector.

AWARDS & RECOGNITION

Thurgood Marshall Scholarship, United States of America

- Awarded \$15,000 for outstanding academic achievement and leadership qualities.
- One of the prestigious Thurgood Marshall Scholars selected for excellence in academic performance, leadership potential, and commitment to making a significant impact in their respective fields.
- The scholarship provided an opportunity to expand my knowledge and network with professionals in the field of engineering.

*Award of Excellence, Mechanical Engineering, University of Ibadan
Graduating Class of 2014*

- Awarded for exceptional academic performance, leadership, and contribution to student life.
- Recognized by faculty for continuous excellence in engineering coursework, extracurricular involvement, and leadership in various academic and professional groups.

*Dean's Honor Award, Faculty of technology, University of Ibadan
Awarded in 2008, 2010, and 2012*

- Recognized for maintaining a high GPA while contributing to departmental activities, student mentorship, and academic leadership.

RESEARCH PUBLICATIONS

*A Review of 3D-Printing of Microneedles
Published in 2022*

- This paper discusses the various 3D printing techniques used in manufacturing microneedles, with a focus on materials, design considerations, and the applications of microneedles in medical treatments such as drug delivery and diagnostics.
- The review also highlights the challenges and potential advancements in microneedle 3D printing for enhanced precision and cost-effectiveness.
- Cited in several academic papers focused on biomedical engineering and microneedle technology (49 citations)

*Deformation Mechanism of Aluminum, Copper, and Gold in Nanoimprint Lithography Using
Molecular Dynamics Simulation
Published in 2023*

- This research explored the deformation behavior of materials during the nanoimprint lithography process, a critical technology for high-precision patterning in electronics and MEMS devices.
- Utilized molecular dynamics simulations to understand how different materials respond to stress and strain during nanoimprint processes, providing insights into material selection and process optimization for nano-manufacturing.

*Spectral Features Analysis for Print Quality Prediction in Additive Manufacturing: An
Acoustics-Based Approach
Published in 2024*

- This paper focuses on using acoustic signals to predict the quality of 3D-printed parts, leveraging spectral features such as frequency, amplitude, and spectral flatness.

- The work integrates acoustic signal processing with machine learning algorithms to develop predictive models for identifying defects in 3D prints, enhancing quality control measures in additive manufacturing.
- The findings have applications in real-time monitoring and quality assurance in AM processes.

CONFERENCE/WORKSHOP PRESENTATIONS

IDETC 2024, Washington DC

Presentation: "Time & Frequency Domain Analysis of Acoustic Signals of Additively Manufactured Samples"

- Focused on how time and frequency domain analysis of acoustic signals can be used to identify defects in 3D printed parts, such as blocked nozzles and material inconsistencies.
- Presented findings on the correlation between acoustic features and print quality, contributing to the development of new methods for real-time quality monitoring in additive manufacturing.
- Participated in panel discussions on the future of AM technologies and the role of data-driven approaches in improving manufacturing outcomes.

COMMUNITY DEVELOPMENT PROJECTS

Save A Soul Project, University of Ibadan

- Contributed to initiatives aimed at providing support to underprivileged communities, with a particular focus on healthcare, education, and sustainability.
- Assisted in organizing charity events and fundraising efforts to provide essential resources to communities in need.

Committee Member, FOPA (Fifteen Outstanding Persons Award), University of Ibadan

- Played a key role in the planning and execution of this prestigious award ceremony, recognizing 15 outstanding individuals for their achievements in various fields, including academia, business, and community service.
- Oversaw the nomination and selection process, ensuring the recognition of deserving individuals.

Committee Member, TOPF (Tunde Oshobi Public Forum)

- Worked on organizing public forums that addressed critical social issues, with a focus on personal development, youth leadership, and community transformation.
- Collaborated with thought leaders, professionals, and students to discuss contemporary challenges and solutions in Nigerian society.

LEADERSHIP EXPERIENCE

*Chairman, Training Institute, Junior Chamber International, University of Ibadan
2012 - 2013*

- Led the development and implementation of training programs focused on leadership, entrepreneurship, and professional development for students and young professionals.
- Successfully coordinated workshops, seminars, and guest lectures from industry leaders.

*Director of Travels & Tour, Junior Chamber International, University of Ibadan
2011 - 2012*

- Managed travel logistics for JCI members, ensuring smooth operations for both national and international events.
- Organized tours and events aimed at building cultural exchange and networking opportunities for students and professionals.

VOLUNTEERING EXPERIENCE

*Sensitization of University of Ibadan Drivers on the Use of Zebra Crossing
2011*

- Advocated for road safety by educating drivers and students on the importance of using pedestrian crossings, contributing to the reduction of accidents on campus.

NCGrowth Business Analyst, 2021

- Provided pro-bono business consulting services to local businesses in North Carolina, focusing on strategy, market research, and financial modeling to help entrepreneurs scale their businesses.
- Contributed to the development of business plans and analysis tools that led to better decision-making and increased operational efficiency for small businesses.

SKILLS

- SAP Enterprise Resource Planning – Specialized in Plant Maintenance & Lean Manufacturing Tools.
- Project Management – Proven track record of managing complex projects from inception to completion, ensuring on-time and within-budget delivery.
- Microsoft Excel (Analytics), SAS, Python – Expertise in data analytics, machine learning, and digital twinning for predictive modeling and manufacturing process optimization

CERTIFICATIONS

- Electrical Safety Training Systems, Electrical Worker – Canada, 2018

- Lock-Out/Tag-Out Awareness Training (Danatec), Canada, 2018
- Lean Six Sigma (Green Belt), 2021