SEYI RUFUS ZENITH, OLUWADARE
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EDUCATION

Ph.D Mechanical Engineering, CGPA: 3.78/4.0 **In View**
Clarkson University, Potsdam, NY.
- Thesis: Temporal relation dependence in manufacturing digital twin and STEM education
- Advisor: Prof Carl Hoover

M.Sc. Mechanical Engineering, CGPA: 3.78/4.0 **August, 2025**
Clarkson University, Potsdam, NY.
- Computational Fluid Dynamics | Fluid Mechanics | Aerodynamics | Wind Turbine
- Thesis: Flow-driven rotor simulation of ducted wind turbine and diffuser optimization
- Advisor: Prof Craig Merrett | Prof Chunlei Liang

M.Sc. Mechanical Engineering GPA: 3.54/4.0 (WES IGPA) **July. 2019**
University of Lagos, Lagos, Nigeria
- Heat transfer | Fluid Mechnaics | Thermofluids | Cooling devices
- Thesis: Multi-scale Design of Elliptical Cooling Channels with Internal Heat Generation
- Advisor: Dr. Olabode Thomas Olakoyejo

B.Eng. Mechanical Engineering GPA: 3.52/4.0 (WES IGPA) **July. 2014**
University of Ilorin, Ilorin, Nigeria
- Thesis: Design and Development of a Quad-copter equipped with a Normalized Difference Vegetation Index (NDVI) camera for Agricultural Surveillance
- Project: Improvement and Performance Analysis of Pelletizing Machine of Table Water Nylon
- Advisor: Dr Sulaiman Abdulkareem

RESEARCH EXPERIENCE

Research Assistant (Aero-Servo-Thermo-Viscoelasticity Group) **Aug. 2022 – July 2025**
Research Assistant (Computational Aero and Hydrodynamics Lab) **June 2024– July 2025**
Clarkson University, Potsdam, NY
Computational Fluid Dynamics | Fluid Mechanics | Aerodynamics | Wind Turbine

TEACHING EXPERIENCE

Fall 2022
Course: ME301/AE 301 : Experimental Method in Mechanical and Aerospace Engineering
Instructor: Prof. Carl Hoover
- Guide students through the theoretical concepts associated with the lab experiment.
- Clearly demonstrate proper experimental techniques and procedures.
- Respond to students' inquiries regarding theoretical concepts, procedures, or data analysis.
- Emphasize adherence to safety protocols and best practices. Monitor students' progress during the experiment to ensure safety and accuracy.
- Encourage critical thinking and problem-solving skills by prompting thoughtful questions.
- Provide constructive feedback on students' performance during and after the lab.

Spring 2023
Course: ME401/AE 401 : Test Engineering
Instructor: Prof. Carl Hoover
- Assist in setting up the test engineering lab, ensuring that all necessary equipment, software, and tools are available and in working order.

- Illustrate best practices for designing and conducting tests, emphasizing industry standards.
- Help students understand the process of test planning, including defining test objectives, selecting test cases, and creating test scenarios.
- Develop detailed test plans outlining the scope, objectives, resources, and schedule for testing.
- Define testing methodologies and strategies, considering factors safety, social , environmental and economic impact
- Emphasize the significance of assessing system scalability, responsiveness, and stability.
- Assist in grading lab assignments and projects, offering insights to enhance their testing skills.

Fall 2023
Office of Information Technology, Accelerating Computational Research for Engineering and Science (ACERS) Cluster Admin: Zhon Butcher

- Direct students to relevant resources, documentation, and online materials that support their computational research.
- Assist with troubleshooting technical issues related to computational tools and platforms.

Electrical Installation and Maintenance Tutor **Nov 2014 – 2015**
Government day secondary school, Tambuwal, Sokoto, Nigeria

- Conduct practical, hands-on training sessions to give students experience in electrical installations, wiring, and maintenance tasks
- Introduce students to a variety of electrical equipment, tools, and materials commonly used in the field
- Teach students troubleshooting techniques to identify and rectify electrical faults and malfunctions.

WORK EXPERIENCE

Glo Mobile Ghana Limited, Accra, Ghana **June 2017 – July 2022**

Fiber Engineer. **Feb. 2021 – July 2022**

- Overseeing the installation and deployment of fiber optic cables and related equipment, ensuring compliance with design specifications, quality standards, and safety protocols.
- Collaborating with network architects and planners to design and plan fiber optic networks based on project requirements.
- Conducting optical power and loss measurements, as well as troubleshooting and resolving issues related to signal loss, attenuation, or other optical impairments.

Data Network Engineer. **June. 2017 – Feb. 2022**

- Computing Network congestions & KPIs
- Monitoring, Tracking and Escalation of network incidence
- Liaised with transmission and sales teams to grow daily data consumption
- Network environments and supervision management
- Providing Network QoS and QoE
- Providing first level investigation, support and problem resolution. Escalate to second level support if required.

Federal Airport Authority of Nigeria, Akure
Intern **Nov. 2015 – April 2016**

- Automobile Maintenance and Airport operations
- Engineering services and Maintenance
- Technical Support Engineer

First Maximum Point Nigeria Ltd
Intern **June. 2013 – Oct 2013**

- Assisted in operating plant and engaged in refining process of Palm kernel Crude (PKC) Oil, Red oil, Soya beans Oil and White Oil.
- Extraction of PKC oil from palm kernel and duties in solvent extraction of the oil.
- Repair and service of the crushing machine, mechanical conveyor, heat exchanger, cooling tower, generator etc

Omotosho Gas Power Station Plc
Intern **June. 2012 – Feb 2013**

- Assisted in maintenance of turbine, generators, shafts, blades and bearing.
- Reducing vibration in pumps and turbine, assembling and disassembling of machines,
- Maintenance of purifier water tank and cooling tower, repair and service of heat exchanger.
- Corrosion control of the pipelines and replacement of pipes.

CONFERENCES & PRESENTATIONS

- Research and Project Showcase (RAPS) **May 2025**
- American Institute of Aeronautics and Astronautics, Region 1 student conference **March 2025**
- Jameson-Kim-Wang Symposium: Emerging Trends in Computational Fluid Dynamics: Towards Industrial Applications **Dec 2024**
- Center for Advanced Materials Processing Annual Conference, Corning, New York, USA **May 2023**
- Energy Optimization at Omotosho Gas Power Plant, PHCN, Ore. **Feb 2012**

PUBLICATIONS

- Computational Study of heat transfer and Entropy Generation in Novel M-Like Structure Microchannel Heat Sink using TiO2 Nanofluid
- Computational Heat Transfer Fluid Flow Analysis in a Diamond Hole **http://doi.org/10.46792/fuoyejet.v8i1.887**
- Flow-Driven Rotor Simulations of Seyi-Chunlei Ducted Turbine
- Optimization of energy grid efficiency with machine learning: A comprehensive review of challenges and opportunities
- Influence of stenosis severity on hemodynamics flow at low Reynolds numbers: A computational fluid dynamic study

AWARDS AND HONORS

- Advance Africa Scholarship by Access Bank
- Engineering Dean's List
- Online Courses Certificate [OCC]

SKILLS AND INSTRUMENT

- ANSYS Fluent | MATLAB | Solid Work | Siemen NX | Creo Parametric | Maple.
- Computation Fluid Fynamics | Aerodynamics | Wind Turbine |Fluid dynamics | Heat trasfer
- Microsoft Office | Power point | Excel
- Leadership | communication | presentation skills | project management | team player | Negotiation | Design Driven Enterprise | Time Management | Work collaboration and development | Planning and decision making
- Critical thinking | Analytical skills | Product Management

PROFESSIONAL MEMBERSHIP

- American Institute of Aeronautics and Astronautics (AIAA)
- American Society of Mechanical Engineers (ASME)
- Association for Iron and Steel (AIST)
- American Ceramics Society (Acer)
- The Mineral, Metals and Material Society (TMS)
- Fellow, National Institute of Professional Engineers and Scientist (NIPES)
- Fellow, Scholars Academic and Scientific Society (SASS)
- Fellow, International Society for Development and Sustainability (ISDS)

SPECIALIZED COURSES

- Design Thinking for Innovation
- Wind Energy
- Advanced Engineering System in Motion
- Negotiation, Mediation and Conflict Resolution
- Spacecraft Dynamics and Control
- Digital Manufacturing