

Seyi Rufus Zenith Oluwadare

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EXECUTIVE SUMMARY

- Advanced manufacturing researcher focused on flexible & smart manufacturing operations, with 5+ peer-reviewed publications.
- **10+ years of multidisciplinary experience** across academia and industry.
- Industry-level mechanical engineering experience with system & enterprise systems skills.
- **Research Interests:** Manufacturing Digital Twins, Computational Fluid Dynamics, Thermofluids, Clean Energy & High-Speed Aerodynamics.

EDUCATION

Clarkson University (CU)

Ph.D. in Mechanical Engineering

Potsdam, NY, USA

Aug 2025 – May 2028 (Expected)

Clarkson University (CU)

M.S. in Mechanical Engineering (Aerodynamics/CFD)

Potsdam, NY, USA

Aug 2022 – Jul 2025

- CGPA: 3.78/4.0

University of Lagos (Unilag)

M.S. in Mechanical Engineering (Thermofluids)

Lagos, Nigeria

Jan 2017 – Jul 2019

- CGPA: 3.54/4.0 (WES IGPA)

University of Ilorin (Unilorin)

B.Eng in Mechanical Engineering

Ilorin, Nigeria

Sep 2009 – Jul 2014

- CGPA: 3.52/4.0 (WES IGPA)

RESEARCH EXPERIENCE

Manufacturing Optimization Lab

Clarkson University

Aug 2025 – Present

Potsdam, NY

- Modeling of temporal dependencies and sequence flexibility for manufacturing digital twins and STEM curriculum.
- Manufacturing digital twins and operations

Aero-Servo-Thermo-Viscoelasticity Lab

Clarkson University

Aug 2022 – Jul 2025

Potsdam, NY

- Validation of NREL VI turbine
- Blade Vortex Interaction of rotary devices

Computational Hydrodynamics Lab

Clarkson University

Jun 2024 – Jul 2025

Potsdam, NY

- CFD and aerodynamics research on flow-driven rotors and ducted wind turbines.
- Wind turbine design and simulation

INDUSTRY EXPERIENCE

Fiber Engineer

Glo Mobile Ghana Limited

Feb 2021 – Jul 2022

Accra, Ghana

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

Data Network Engineer

Glo Mobile Ghana Limited

Jun 2017 – Feb 2022

Accra, Ghana

- Computing network congestions & KPI analytics, incident monitoring/escalation, QoS/QoE support, and cross-team coordination.
- Designed a network metric that identifies bottlenecks in the network

Intern

Federal Airports Authority of Nigeria (FAAN)

Nov 2015 – Apr 2016

Akure, Nigeria

- Automotive maintenance, engineering services, and technical support in airport operations.

Intern

First Maximum Point Nigeria Ltd.

Jun 2013 – Oct 2013

Nigeria

- Plant operations for PKC, red oil, soybean oil; equipment maintenance (conveyors, HX, cooling towers, gensets).

Intern

Omotosho Gas Power Station Plc

Jun 2012 – Feb 2013

Nigeria

- Turbine/generator maintenance, vibration reduction, corrosion control, HX and cooling-tower servicing.

TEACHING AND MENTORING

Graduate TA, Mechanical & Aerospace Department

Clarkson University

Aug 2022 – present

Potsdam, NY

Course: ME/AE 301: Experimental Methods (Fall 2022, 2025)

- Guided theory–experiment linkage, demonstrated procedures, ran friction lab, enforced safety, provided feedback on data analysis, and graded assignments..

Course: ME/AE 401: Test Engineering (Spring 2023)

- Test planning, standard methodologies, scalability, mentoring students on projects, provided training on critical thinking, testing of designs, measurement and instrumentation.

ACERS (Accelerating Computational Research) Support

Office of Information Technology, Clarkson

Aug 2023 – Jun 2024

Potsdam, NY

- Directed students to documentation/resources and troubleshoot computational tool issues.
- Introducing Clarkson University students and faculty to HPC and providing software support

Electrical Installation & Maintenance Tutor

Govt. Day Secondary School, Tambuwal

Nov 2014 – Oct 2015

Sokoto, Nigeria

- Delivered hands-on sessions in wiring, equipment use, and fault diagnosis.

PUBLICATIONS

Peer-reviewed journal papers prefixed with P; conference papers with C; preprints with R.

- ⟨C3⟩ “Modeling Temporal and Sequence Flexibility in Manufacturing Operations using Allen Interval Algebra,” *Submitted to ASEE*, 2026 (Under Review).
- ⟨C2⟩ “Validation of Temporal Curricular Analytics Graph Metrics on Historical Mechanical Engineering Degree Progress,” *Submitted to ASEE*, 2026 (Under Review).
- ⟨J1⟩ “Flow-Driven Rotor Simulations of the Clarkson Ducted Wind Turbines and Diffuser Optimization,” *Submitted to J. of Wind Eng. & Industrial Aerodynamics*, 2026 (Under Review).
- ⟨P5⟩ “Heat transfer performance analysis of steam boilers-fin and tube heat exchangers under varying geometric dimensions,” *International Journal of Engineering Systems Modelling and Simulation*, 2026. [DOI](#). (in-Press)
- ⟨P4⟩ “Optimization of energy grid efficiency with machine learning: A comprehensive review of challenges and opportunities,” *Journal of Renewable and Sustainable Energy Reviews*, 2025. [DOI](#).
- ⟨C1⟩ “Flow-Driven Rotor Simulations of Seyi-Chunlei Ducted Turbine,” *AIAA*, 2025. [DOI](#).
- ⟨P3⟩ “Influence of stenosis severity on hemodynamics flow at low Reynolds numbers: A computational fluid dynamic study,” *NJTD*, 2024. [DOI](#).
- ⟨P2⟩ “Computational Heat Transfer Fluid Flow Analysis in a Diamond Hole Microchannel,” *FUOYE JET*, 2023. [DOI](#).
- ⟨P1⟩ “Computational Study of heat transfer and Entropy Generation in Novel M-Like Structure Microchannel Heat Sink using TiO₂ Nanofluid,” *UJSER*, 2022. [ResearchGate](#).

MEDIA RECOGNITIONS

Featured in several major media

- **Vanguard Nigeria** — “At the Intersection of Aerodynamics and Thermal Engineering: A Discussion with Seyi Oluwadare ’ featured an in-depth interview on integration of CFD, aerodynamics, and advanced cooling for efficient energy systems(Dec. 2024)
- **The Sun Nigeria** — “Cooling Future Energy: Seyi Oluwadare’s Multiscale Design Boosts Efficiency.” reported on multiscale thermal design research that improves efficiency in clean energy applications (May 2022)

SERVICE

- **Peer Reviewer**
 - 1 paper, International Journal of Thermofluids, 2025.
 - 1 paper, Journal of Fluid Engineering, 2024.
 - 2 papers, Journal of Engineering and Exact Science, 2023, 2024.
- **Judge** First Tech Challenge Robotic Competition, 2025

- **Virtual Judge** eCYBERMISSION, 2025

AWARDS & SCHOLARSHIPS

- Graduate Teaching Assistantship (GTA Award), Clarkson University, 2022–2028 (Full Ph.D. funding).
- Advance Africa Scholarship, 2021.

TECHNICAL SKILLS

Computation Tools: ANSYS Fluent, OpenFOAM, Siemen NX

Research Skills: CFD, FEA, Aerodynamics, Multiphysics, Thermofluids

CAE Tools: Solid Work, Creo Parametric, AutoCAD

Languages: Python, MATLAB, Maple, MySQL

Frontend/Web: HTML, CSS

AI/ML & Data Science: PyTorch, scikit-learn, pandas, NumPy, MATLAB

HPC & Distributed: Slurm, Red Hat OpenHPC

Tools: Git, LaTeX, Office360

Interpersonal Skills: Project/Product management, Critical thinking, negotiation, Design Driven Enterprise

SPECIALIZED COURSES

- Digital Manufacturing
- Design Thinking for Innovation
- Advanced Engineering System in Motion
- Wind Energy
- Negotiation, Mediation & Conflict Resolution
- Abaqus CAE
- Machine Learning
- Clarkson Microcredential courses on manufacturing, such as
 - Basic Statistics of Manufacturing
 - Design for Manufacturing & Assembly
 - Manufacturing Assembly Methods
 - Manufacturing Processes
 - Statistical Process Control
 - Strategic Planning for Manufacturing

PROFESSIONAL MEMBERSHIPS

- American Institute of Aeronautics and Astronautics (AIAA)
- The American Society of Mechanical Engineers (ASME)
- American Society for Engineering Education (ASEE)
- National Institute of Professional Engineers and Scientists (NIPES)
- Scholar Academic and Scientific Society (SASS)
- Association of Steel and Iron Technology (AIST)
- The American Ceramic Society (ACers)
- The Mineral, Metal and material Society (TMS)