OLADAPO OLAYINKA OLUWASEGUN GMNSE

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RESEARCH INTERESTS

Renewable Energy Conversion and Storage | Machine Learning-based Energy Optimization| Electric Vehicle | AI in Smart Manufacturing | Wireless Communication | Embedded Systems and Internet of Things |

EDUCATION

MSc. Electrical and Computer Engineering, Monash University Malaysia **2024-2026**

Thesis: "Design and Implementation of Real-time IoT-based Energy Management for Industrial Plants".

Course Taken: Engineering IoT | Embedded System

Supervisor: Dr. Charles Raymond Sarimuthus

Co. Supervisor: Dr. Patric Ho

B.ENG. Electrical & Electronics Engineering, Federal University, Oye-Ekiti (FUOYE), Nigeria **2018 – 2023**

Courses: Control System | Physical Electronics | Electromagnetic field &waves | Renewable Energy Conversion and Storage | Advance Electronic Circuit | Microcomputer Hardware and Software Technique | Power System Communication and Control | Digital communication | Electrical Power Principle.

Thesis: "Design and Construction of Programmable Passworded and Fingerprint-based Circuit Breaker".

Supervisor: Dr. Temitope Adefarati

CGPA: 4.67/5.0 **Top 1%** **First Class honour**

Diploma Electrical & Electronics Engineering, Kwara State Polytechnic, Nigeria **2014-2016**

Courses: Electrical Engineering Science | Electrical Power System | Electrical Instrumentation | Electronics | Telecommunication Engineering.

Thesis: "Electrical Design and Construction of 2KVA inverter for Electrical laboratory"

CGPA: 3.40/4.00 **Upper Credit**

RESEARCH EXPERIENCE

Electrical and Robotics Engineering Lab Monash University Malaysia **2025**

The lab is part of the digital Sustainability research theme at the School of Engineering, which focuses on applying IoT, AI, data analytic, blockchain, and more, to improve infrastructure efficiency and resilience.

Ongoing research Focus on Real-time IoT for industrial energy optimization by integrating:

- Edge-enabled IoT sensors within industrial contexts to deliver automated and real-time data acquisition on usage patterns and system inefficiencies.
- Machine learning models deployed on the edge or local servers to: Predict energy demand spikes, and adjust system operations dynamically for peak/off-peak and peak shaving.
- Smart Grid & Renewable Energy Integration: Incorporating battery energy storage, solar PV management, and utility tariff optimization.
- Control Systems & Forecasting: Implementing AI-driven optimal control strategies for real-time actions

Federal University Oye Ekiti, Electrical and Electronics Department **2023**

- Joined the undergraduate students to assist research on “design and construction of radio frequency identification card for examination attendance system under the supervision of Dr. Temitope Adefarati.

Undergraduate research project

- Design and construction of programmable password and fingerprint-based circuit breaker.
- Conducted a comprehensive literature review on existing Password and Fingerprint based circuit breaker technologies and implementation.

RELEVANT WORK EXPERIENCE

Transmission Company of Nigeria Jebb Sub-region **2024**

- Nation Youth Service Corps (NYSC) program
- System operating and data supervision
- Electrical maintenance of the switchyard and control room.
- Installation of 63MVA, 132/33KV step-down transformer, Current Transformers, Circuit breaker and Capacitor-Voltage Transformer.

TEACHING EXPERIENCE

Academic Tutor **2018-2023**

Faculty of Engineering, Federal University Oye-Ekiti

Coached and mentored prospective undergraduates in engineering mathematics, recording over 70% average success yearly.

Academic Tutor **2018-2023**

Department of Electrical and Electronics Engineering, FUOYE

Prepared academic materials and Organized tutorials for colleagues and other students at a lower level

Solved complex electrical and electronics calculations for the students and tutored the students on how to apply the methods used in the solution, recording over 80% average success yearly.

Academic Tutor

Electrical and Electronics Engineering Department, Kwara State Polytechnic

Tutored and mentored national diploma students on some electrical and electronics engineering courses.

Further Mathematics Teacher

Prime-Star College **2017-2018**

Mathematics, Physics and Further Mathematics per-time Teacher

Balogun Owoseni Comprehensive High School **2022-2023**

Mathematics and Physics Teacher **2016-2017**

Salem Model College

LEADERSHIP EXPERIENCE/VOLUNTEERING

Academic Coordinator **2023**

Prepared academic materials and Organized tutorials for colleagues and other students at lower level

Coached and mentored prospective undergraduates, recording over 80% average success yearly.

Established good reading culture among colleagues by diving the class into several reading sub-groups

HONORS AND AWARDS

BEST Graduating student in Electrical and Electronics Engineering by Federal University Oye-Ekiti, Ekiti State, Nigeria.

2024

Departmental Scholar of the Year by the National Association of Electrical and Electronics Engineering, Federal University Oye-Ekiti

2023

Departmental Best Tutor by Federal University Oye-Ekiti **2023**

PROFESSIONAL MEMBERSHIP AND AFFILIATIONS

Nigeria Society of Engineers (NSE) **2023- Present**

International Association of Engineering (IAENG) **2023- Present**

National Association of Electrical and Electronics Engineering students **2017 – 2022**

SKILLS

Technical skills: Python |MATLAB | AutoCAD| Microsoft Office Tools |Proteus| Tinker CAD| CPP |
Cognitive skills: Critical thinking | Problem solving | Collaboration

CERTIFICATIONS

Certificate Nigeria Society of Engineers
Certificate of Best Graduating Electrical Engineering student
Certificate of Best Tutor of Engineering faculty
Certificate of AutoCAD designs for electrical perspective
Certificate of Protection Relay Experiment Training
Certificate of MathWorks Training Service
Certificate of Elsevier Training

PUBLICATION

"Energy-aware industrial control system using real-time IoT-based energy management approaches: A review"

Oluwasegun O.Oladapo[a], Patrick W.C. Ho[b], Charles R. Sarimuthu[*], APEN-D-25-09500 Applied Energy Q1 (Under review)

"A systematic review of optimization techniques for off-grid hybrid renewable energy system with hydrogen storage"
Ginika Perpetua Okoroafor, **Oluwasegun O. Oladapo**, Charles Raymond Sarimuthus, Patrick W.C. Ho.
Energy For Sustainable Development (Under Review)

CONFERENCES

Energy Asia 2025- Delivering Asia's Energy Transition **2025**

2nd International Engineering Conference, FUOYE **2021**

Theme: Innovative and Adaptive Research in Engineering for Economic Emancipation

rEFERENCES

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Monash University Malaysia

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Relationship:
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Relationship: Academic Advisor