

OLAYIWOLA AROWOLO

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PROFESSIONAL INTERESTS

Scientific Machine Learning, Dynamical Systems, Graph Algorithms

EDUCATION

- **Doctor of Philosophy (PhD) || Delft University of Technology (Netherlands) || Jan. 2023 - Present**
Research area: Generalisation of Machine Learning Models for Power Systems Applications
Advisor: Jochen Cremer, *PhD*.
- **Master of Science (M.S) || Carnegie Mellon University (USA) || Jul. 2021 - May. 2022**
Specialization: Electrical and Computer Engineering
GPA: 3.96/4.00
Advisor: Professor Sarath Tennakoon
- **Bachelor of Science (B.Sc.) || University of Ibadan (Nigeria) || Feb. 2015 – Feb. 2020**
Major: Electrical and Electronic Engineering
Grade: First Class (CGPA 3.66/4.00)
Advisor: Ezekiel Arogunjo, *PhD*.

RESEARCH EXPERIENCE

- **Delft AI in Energy Lab (Netherlands) || Jan. 2023 – Present**
Doctoral Researcher, Machine Learning for Power Systems Dynamics
Research Project: Using state-of-the-art machine learning techniques to accelerate dynamic security assessment of power systems
Supervisor: Jochen Cremer, *PhD*
- **Max Planck Institute of Biological Cybernetics (Germany) || Jul. 2022 – Sep. 2022**
Summer Intern at RoLi lab, Max Planck Institute of Biological Cybernetics, Tübingen
Research Project: Using artificial neural networks as generative models to predict future foraging behaviour in Zebrafish
Supervisors: Jennifer Li, *PhD* and Drew Robson, *PhD*

PROFESSIONAL EXPERIENCE

Carnegie Mellon University Africa (Rwanda) || Teaching Assistant || Oct. 2022 – Dec. 2022

Teaching Assistant for Photovoltaic Systems Engineering by Prof. Barry Rawn

- Supported course instructor with material preparation and delivery
- Graded student assignments and projects

- Conducted recitations for students and prepared work assignments
- Conducted office hours to assist students with assignments and respond to questions

Plentify (South Africa) | | Data Scientist | | May 2022 – Jul. 2022

A technology startup building a smart platform for electric grid load management in South Africa

- Designed a solution for securing database credentials to meet the client's security specifications while inserting personally identifiable information into the database
- Developed an ML algorithm to solve the problem of unusually large false positives in leak sensor readings. The deployed algorithm reduced customer complaints by more than 50%
- Conducted research on leak sensor sensitivity of Plentify's IOT devices (Hotbots)

Elektron Energy Limited (Nigeria) | | Engineering Analyst | | May 2021 – Jul. 2021

An energy infrastructure asset developer in Nigeria

- Prepared technical documents, including technical pre-feasibility reports during the due diligence process of funding partners
- Reviewed specification documents such as bill of engineering measurement and evaluation (BEME) from project contractors
- Coordinated activities across power system assets in a team of 3 to ensure over 99% uptime of power plants

Robotics and Artificial Intelligence Nigeria (Nigeria) | | Course Instructor | | May 2020 – May 2021

Nigeria's first Robotics and Artificial Intelligence Research Training Centre

- Taught data science and machine learning to trainees
- Designed a voice interaction system for smart home control for A-Deus, a UK-based energy startup
- Developed a prototype for a human pose estimation and traffic monitoring system

HONORS/AWARDS

- Carnegie Institute of Technology (CIT) Dean's Fellowship | | 2021
- Petroleum Trust Development Fund (PTDF) Nigeria Undergraduate Scholarship | | 2017
- Jsay Pre-Varsity Award of Excellence | | 2014

SELECTED PUBLICATIONS

- **O. Arowolo**, M. Yang, J. Cremer, "Revisiting data-driven dynamic security assessment with a tabular foundation model" | | ARXIV preprint: [link](#) | | 2026
- **O. Arowolo**, J. Cremer, "Towards Generalization of Graph Neural Networks for AC Optimal Power Flow" | | Energy and AI: [link](#) | | 2026
- **O. Arowolo**, J. Stiasny, J. Cremer, "Exploring Extrapolation of Machine Learning Models for Power System Time Domain Simulation" | | Sustainable Energy, Grids and Networks: [link](#) | | 2025
- A. Rajaei, **O. Arowolo**, J. Cremer, "Learning-Accelerated ADMM for Stochastic Power System Scheduling with Numerous Scenarios" | | IEEE Transactions on Sustainable Energy: [link](#) | | 2025
- A. Rajaei, **O. Arowolo**, J. Cremer, "Spatio-Temporal Graph Neural Networks for Multi-Period Optimal Power Flow" | | Proceedings IEEE ISGT Europe: [link](#) | | 2025
- O. Adedeji, P. Owoade, O. Ajayi, **O. Arowolo**, "Image Augmentation for Satellite Images" | | ARXIV preprint: [link](#) | | 2022