# Teslim Olayiwola

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## Education

- **Louisiana State University (LSU)** — Baton Rouge, USA
  *PhD Chemical Engineering; GPA: 4.0/4.0* — *Jan. 2021 - Dec. 2024*
  ***Minor:*** *Computer Science, Chemistry*
- **African University of Science & Technology (AUST)** — Abuja, Nigeria
  *MSc Petroleum Engineering; GPA: 3.64/4.0* — *Jun. 2016 - Dec. 2017*
- **Ladoke Akintola University of Technology (LAUTECH)** — Ogbomoso, Nigeria
  *BSc Chemical Engineering; GPA: 4.62/5.0* — *Jan. 2011 - Dec. 2015*

## Skills Summary

- **Languages**: Python, SQL, MATLAB
- **Machine learning**: Scikit-Learn, TensorFlow, Keras
- **Tools**: GROMACS, LAMMPS, VMD, Gaussian
- **Platforms**: Linux, Git
- **Soft Skills**: Research, Leadership, Event Management

## Experience

- **Cain Department of Chemical Engineering, Louisiana State University** — Baton Rouge, US
  *PhD Candidate (Full-time)* — *May 2022 - Present*
  - Building data-driven model for Electrochemical system.
  - Multi-scale modeling of chemical processes using machine learning.
- **Dhahran Techno Valley** — Dhahran, Saudi
  *Research Assistant (Contract)* — *Jan 2019 - Dec 2020*
  - Designed and conducted quantitative research on the application of molecular dynamics study in polymer & surfactant studies.
  - Presented research results in the form of journal manuscripts and presentations.
  - Secured a KAUST Shaheen II research grant worth USD 26,000 in collaboration with my Professor.

## Projects

- **Generalized Hybrid Modeling Framework for Electrochemical Separations**: (Work in progress) Building a framework that exploits compositional modeling and Machine Learning to develop physics-aware models for electrochemical separations systems. Tech: Python, Pymoo, Scikit-Learn, & Tensorflow (Dec '18)
- **Feature Embedding for Modeling Separation Processes**: Leveraged on Molecular Dynamics data to enhance the modeling on Polymeric Membrane Design for Electrochemical Separation. Tech: Python, Pymoo, Scikit-Learn, LAMMPS, HPC, & Tensorflow. (Dec '22)
- **Machine learning-based approach for cement design**: Proposed and published a scientific article on a machine learning framework to predict the compressive strength of ternary-blend cement materials. Tech: Python, MATLAB, Sckit-Learn (Feb '20)
- **Insights into atomistic Study of Partially Hydrolyzed Polyacrylamide (HPAM) polymers for Enhanced Oil Recovery application** : Designed and proposed structural upgrades to HPAM polymer for usage in high temperature and high salinity water with the aid of molecular dynamics tools. Tech: GROMACS, HPC, Python, & Gaussian (Dec '20)
- **Interfacial phenomenon of anionic and cationic surfactant of same hydrocarbon length**: Studied the effect of surfactant charged head group on the interfacial dynamics between water and hydrocarbon. Tech: GROMACS, HPC, Python, & Gaussian (Dec '20)

## Publications (at LSU)

- **Conference: Feature Embedding of Molecular Dynamics-Based Descriptors for Modeling Electrochemical Separation Processes)**: To be published in Computer Aided Chemical Engineering (June 2023). Tech: Python, Scikit-Learn, Pymoo, Matplotlib, Seaborn
- **Journal: On the integration of machine learning and molecular dynamics for the estimation of ion activity coefficient in membranes**: Manuscript in preparation. Tech: Python, Scikit-Learn, Pymoo, Matplotlib, Seaborn

## Honors and Awards

- Omicron Delta Kappa, 2022; Gamma Beta Phi, 2022; George Daniel Fellowship, 2021
- LSU Graduate Assistantship, 2021; SPE African Regional Paper Contest Winner (BSc & MSc), 2017

## Volunteer Experience

- **Vice President at LSU Chemical Eng. Graduate Student Association** — Baton Rouge, USA
  *Assisted in organizing events for Chemical Engineering Graduate Students.* — *May 2022 - Present*
- **Vice president at LSU African Graduate Student Association** — Baton Rouge, USA
  *Deputized for the president & managed the affairs of over 45 African Graduate Students.* — *May 2022 - Present*