Edwin K. A. Tenkorang

+1 (979) 344-0545
Texas A&M University
College Station, TX 77840

ekatenkorang@tamu.edu
My LinkedIn
My Google Scholar

RESEARCH AREAS	Smart distribution systems, cyber-physical systems security, grid-edge integration, smart cities and data-driven fault detection

EDUCATION

Texas A&M University, College Station, TX, USA
In-Progress Ph.D., Electrical Engineering
Advisor: Prof. Karen L. Butler-Purry
Expected 2029   CGPA: 4.00/4.00

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
B.S. Electrical/Electronics Engineering
Advisor: Prof. Emmanuel Asuming Frimpong
Awarded Nov 2022 with first-class honors   CGPA: 3.69/4.00

EXPERIENCE

Power Systems Automation Laboratory, Texas A&M   1/2025 – Now
Graduate Research Assistant
Working on impact assessment of cyber-attacks on distribution systems. Created power system models for real-time cyber-physical system studies using the Smart-DS dataset.

Power Systems Laboratory, KNUST   11/2023 – Present
Research Assistant till 12/2024, Research Advisor from 1/2025
Conceived and launched the lab's maiden Undergraduate Research Program to offer research opportunities to undergraduates. Served as a co-PI for four projects.

University Information Technology Services, KNUST   11/2022 – 09/2023
Cybersecurity Assistant, Information Security and Technology Assurance Dept
Conducted real-time monitoring of network traffic and security alerts to identify threats and vulnerabilities. Assisted with the establishment of a Security Operating Center by installing and configuring SIEM/SOAR tools.

Ghana Grid Company Limited   10/2021 – 12/2021
Protection and Control Intern, Nhyiaeso Substation
Undertook vegetation control for transmission lines, and assisted in substation maintenance and equipment replacement activities.

PROJECTS

Electric Vehicle (EV) Modeling and Impact Studies in Distribution Systems

Conducted a study on a smart distribution system to determine the effects of increasing penetration of EVs on power system parameters using CYME. Modeled EVs and load profiles for different type of loads for said cause.

Cascading Failure Simulation Framework   Github

A script for simulating large-scale cascading blackouts using MATPOWER casefiles to generate datasets for blackout prediction. Completed as part of the KNUST Undergraduate Research Program.

PSO-A2C-Lnet   Github

A short-term load forecasting framework comprising attention-augmented CNN-LSTM for predicting hourly load generation. Also compiled a Ghanaian dataset for load forecasting using demand data from the Electricity Company of Ghana.

Transformer Inter-turn Fault Diagnosis   [Github 🔗](#)

The project involved using a CNN and wavelet analysis to diagnose fault severity and location, resulting in near-perfect accuracy in fault prediction. Wrote code for test system modelling, signal processing, data generation, and CNN training and testing.

HONORS & AWARDS	**Thomas W. Powell '62 Fellowship**, EPG, Texas A&M	**07/2025**

PUBLICATIONS *Preprints are italicized.*

- Transformer Inter-turn Fault Detection using Continuous Wavelet Transforms and Convolutional Neural Networks. Edwin K. A. Tenkorang, Emmanuel A. Frimpong, Elvis Twumasi. In *ADDRI Journal of Engineering and Technology*, 2023.

- Short-Term Load Forecasting Using a Particle Swarm Optimized Multi-Head Attention-Augmented CNN-LSTM Model. Paapa Kwesi Quansah, Edwin K. A. Tenkorang. *International Journal of Artificial Intelligence and Soft Computing*, 2023.

- *Improvement of Sea Lion Bio-Inspired Optimization Algorithm. Alexander A. Abakah, Edwin K. A. Tenkorang, Elvis Twumasi.*

CONFERENCE PRESENTATIONS

- **Impact of Electric Vehicles on a Smart Distribution System**. Edwin K. A. Tenkorang. At *IEEE PES General Meeting, Austin, Texas*, 2025.

- *Improvement of Sea Lion Bio-Inspired Optimization Algorithm. Alexander A. Abakah, Edwin K. A. Tenkorang, Elvis Twumasi.*

TECHNICAL SKILLS

Programming : Python, MATLAB, LaTeX, C
Frameworks : Matplotlib, Matpower, Numpy, Pandas, Tensorflow (Keras)
Tools/Software : MATLAB/Simulink, Cyme, EMTP, OpenDSS, RTDS/RSCAD

CERTIFICATION

- **Cybersecurity Professional Certificate** by Google on *Coursera*
- **Certified in Cybersecurity** by ISC2

TEACHING

Dept. of Electrical/Electronic Engineering, KNUST   **01/2023 − 09/2023**
Teaching Assistant
Courses: Power Systems Protection (EE 468) and Power System Analysis (EE 387)

RELEVANT COURSES

- Power System Electromagnetic Transients • Power Generation & Supply
- Power Systems Operation and Control • Foundations of Networking
- Power Systems Analysis • Power Systems Protection • Control Systems I-II

ADDITIONAL ACTIVITIES

- Event Volunteer, IEEE Power & Energy Society General Meeting   *07/25*
- Member, IEEE Power & Energy Society   *02/25 - Now*
- Member, National Society of Black Engineers, TAMU   *07/22 - Now*
- Member, West African Graduate Student Association, TAMU   *01/25 - Now*
- Administrator, KNUST Power Lab Undergraduate Research Program   *03/23 - Now*
- Associate, ISC2   *08/23 - 08/24*
- Event Planning Team Member, BecauseSheCan   *08/22 - 11/22*