

# Isaac Edem Adoboe

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## EDUCATION

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### Memorial University of Newfoundland

Master of Science in Scientific Computing

St. John's, NL

Sept 2025 – Present

Continuing into thesis-based Scientific Computing masters following coursework-intensive Data Science masters.

### Memorial University of Newfoundland

Masters in Data Science; GPA: 4.0; Fellow of the School of Graduate Studies

St. John's, NL

Sept 2024 – Aug 2025

### Kwame Nkrumah University of Science and Technology

Bachelor of Science in Electrical Engineering; GPA: 3.55/4.0

Kumasi, Ghana

Sept 2017 – Sept 2021

## EXPERIENCE

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### Technology Portfolio Support Analyst

Newmont Mining Corporation

Akyem Mine, Ghana

Nov 2021 – July 2024

Promoted from End User Support Analyst (Aug 2022) to Technology Portfolio Support Analyst supporting mining operations technology infrastructure and data systems

- **Data Automation & Analytics:** Built Python-based reporting pipeline automating Lenel security system data extraction and transformation for finance/HR stakeholders (Power BI dashboards). Replaced manual processes with scheduled delivery reducing turnaround from days to hours.
- **Technical Operations Support:** Led technical support for 900+ users across enterprise and mining-specific software (MineSight, Deswik, LIMS), achieving 95% first-contact resolution. Coordinated deployment of 8+ major IT infrastructure projects including LIMS modernization and workforce management systems.

### Front-End Developer

Envision Digital Signage Network

Kumasi, Ghana

Jan 2021 – Dec 2021

Part-time web development role during final year of undergraduate studies, leading React-based application transformation

- **Web Application:** Developed responsive React application for digital signage management, contributing to 100% sales growth. Reduced page load times by 40% through code splitting and performance optimization.
- **Component Architecture:** Created reusable component libraries (dashboards, data visualizations, forms) using React Context API and custom hooks.

### Electrical Engineering Intern

Volta River Authority

Akosombo, Ghana

May 2020 – Aug 2020

Summer internship supporting high-voltage electrical distribution systems for national power infrastructure

- **High-Voltage Systems:** Assisted maintenance and troubleshooting of 161kV and 330kV transmission lines ensuring continuous power delivery. Participated in preventive maintenance scheduling and fault analysis.
- **Power Distribution Analysis:** Processed load flow data and voltage profiles for distribution optimization studies, identifying system improvements and efficiency opportunities.

## PROJECTS

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### Surrogate-Based Optimization for Molecular Configurations

Spring 2025

Developed machine learning surrogates for quantum chemistry calculations in protein-carbohydrate binding. Implemented global optimization algorithm across 24 molecular pairs with 16D feature space.

### Fine-Tuned CodeGen Model

Winter 2025

Fine-tuned transformer-based CodeGen-350M on CodeSearchNet Python corpus using HuggingFace Transformers. Optimized training with GPU acceleration and evaluated using BLEU, CodeBLEU metrics for code completion quality.

### Machine Learning-Based Fault Detection in Induction Motors

2021

Undergraduate thesis developing CNN architecture achieving 61.4% multi-class accuracy on motor fault classification. Processed motor current signals into time-frequency spectrograms with TensorFlow/Keras implementation.

## SKILLS

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**Programming:** Python (NumPy, pandas, matplotlib, scikit-learn, TensorFlow, Keras, PyTorch), R, SQL, Bash

**Software & Tools:** Jupyter, RStudio, Git/GitHub, Azure, MS Excel, Power BI