

**DONKOH ISAAC KOJO**  
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## **PROFILE SUMMARY**

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I am a passionate financial engineer with expertise in financial modeling, optimization and data analytics. By combining Python and quantitative methods, I transform complex data into insights that support effective decision-making, while continuously learning and growing in the field.

## **PERSONAL COMPETENCIES**

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- Programming & Tools: Python, Julia, Jupyter Notebook, Visual Studio Code (VS Code), Google Colab
- Frameworks and Libraries: Gurobipy, Scikit-Learn, Pandas, Numpy, Matplotlib, Scipy, TensorFlow, Autoviz, XGBoost, TA-Lib, Pandas-ta.
- Technical Expertise: Financial and Yield Curve Analysis, Econometric and Optimization Modeling, Exploratory Data Analysis and Machine Learning, Technical Analysis and Sentiment Analysis
- Professional Skills: Ability to work independently, Good Team player, Research, Adaptability, Collaboration.

## **EDUCATION**

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**WORLDQUANT UNIVERSITY**  
**Masters of Science, Financial Engineering ( Online Degree)**

**UNITED STATE**  
**JAN 2025-DEC 2026**

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY KUMASI**  
**Bachelor of Science, Industrial Engineering**  
**Graduated Class: Second Class Honors**

**JAN 2020-NOV 2024**

## **RELEVANT COURSES**

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|-----------------------------------|---------------------------|
| • Operations Research             | • Financial Data Analysis |
| • Costing and Break-Even Analysis | • Financial marketing     |
| • Econometrics                    | • Risk Analysis           |
| • Financial Derivatives           |                           |

## **UNIVERSITY PROJECTS**

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**KNUST**

**N(GRAVIMETRIC) PREDICTION APPLICATION (R, Shiny, Machine Learning)** **AUGUST 2024**

- Developed a machine learning-based web application in R Shiny for predicting N(gravimetric) values using input longitude (LON) and latitude (LAT)
- Utilized machine learning algorithms and ensemble learning to enhance prediction accuracy, with results available for download in a user-friendly format.

**DELIVERY OPTIMIZATION FOR A LOCAL RESTAURANT**

**APRIL - JUNE 2024**

- Built Vehicle Routing with Time Window (VRPTW) model to enhance delivery efficiency.

- Reduced distance and time for delivery orders to KNUST hostels by 3% through an optimization model

## **OPTIMIZATION OF SOLAR WATER HEATING SYSTEM**

**FEBRUARY-AUGUST 2024**

- Focused on optimization of thermosyphon solar water heating systems
- Employed Mixed-Integer Programming (MIP) to minimize the cost of fabricating and installing a solar water heating system in Ghana while maximizing energy efficiency.
- Employed MIP to select the optimal material for the solar collector design and fabrication

## **RESEARCH PROJECT | PORTFOLIO**

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- Predictive modeling of Ghana's Private Sector pensions asset under management contribution. **NOV 2024**
- Strategic Insights from Ghana's Government Bond Yield Curve using Nelson Siegel model. **MAR 2025**
- Real Time predictive model of forecasting OPD attendance at Adomfe Health Center. **DEC 2024**
- Modeling Joint market behaviour using Copulas. **APR 2025**
- Forecasting key macroeconomic indicators in Ghana using a Time-Varying Vector Error Correlation with Conformal Prediction intervals **JUN 2025**
- Modeling price movement using Hawkes Process; A study in the Indian markets **Ongoing-JULY 2025**

## **WORK EXPERIENCE**

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### **ASANTE AKIM SOUTH HEALTH DIRECTORATE**

**Healthcare Claims Specialist and Data Officer (National Service)**

**OCT 2024 – SEP T 2025**

- Manage health insurance claims for timely reimbursements to sustain healthcare services.
- Enter and Validate health insurance claims
- Work with the Pharmacists to validate if the prescribed medicines and drugs match the Diagnosis treated.
- Give reports and also use statistical techniques and tools to forecast future claims.

## **VOLUNTEERING | ACTIVITIES |**

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### **ENGINEERS WITHOUT BORDERS-KNUST CHAPTER**

**AUGUST 2023 - AUGUST 2024**

#### **Assistant Cook Stove Project Lead**

- Collaborated with Engineers Without Borders-ISU (US) Chapter to address challenges faced by Ullo- S.H.S in Upper West Region-Ghana
- Engaged the Ullo community to build modern cook stoves for the community Senior High School
- Designed and fabricated modern cook stoves with fellow volunteers to reduce fuel consumption and control smoke emissions for Ullo S.H.S

## **REFEREE**

Name: Emmanuel Chinton

Email: echinton@firstgroupghana.com

Position: Research Analyst

Company: First Group Ghana Limited

Tel: 0553156033