CLIFFORD EMMANUEL AKAI-NETTEY

Accra - Ghana, cliffemmanuels@gmail.com | www.linkedin.com/in/cliffordemmanuelakai-nettey | cliffordemmanuel.github.io/

RESEARCH INTERESTS

Trustworthy AI, Explainable AI, Machine Learning, Graph Systems, Data security

RESEARCH EXPERIENCE

Masters Research, Department of Computer Science, University of Wolverhampton (2023-present)
- Comparative Analysis of Machine Learning Models – Evaluated performance and accuracy of regression and classification algorithms, producing a research report with experimental findings and recommendations for improving predictive models.
- Applied data mining techniques on real-world datasets, producing a research report with preprocessing, model implementation, comparative evaluation, and recommendations for improving predictive outcomes.
- Investigated vulnerabilities in home networking devices, evaluated existing security measures, and proposed improvements using emerging technologies and user education.

Undergraduate Researcher, Computer Science Department, University of Mines and Technology (2019)
- Portfolio Optimization with Genetic Algorithms – Applied GA to optimize mutual fund selection in Ghana, comparing roulette wheel, tournament, and random pool methods, confirming efficiency and validity of GA in selection problems.

EDUCATION

University of Wolverhampton (2023-present, expected May 2026)
Masters, Computer Science

University of Mines and Technology (2012-2016)
BSc, Computer Science and Engineering, First Class Honors

WORK EXPERIENCE

Data Engineer Consultant, BigSpark Ltd (2023 - present)

- Collaborated in the development of an AI Governance Platform for the UK market, working on the evaluation of the data quality of datasets used in the building of AI systems.
- Leads the development and maintenance of optimized backend APIs and databases for an event management platform, enhancing scheduling, ticketing, and attendee data workflows.
- Developed and maintained ETL pipelines for the reporting on NatWest's retail and commercial customers for Smart Data Foundry.
- Collaborated with a multidisciplinary team in the design and implementation of a metadata-based data engineering framework tailored to support the data engineering needs of a major UK bank using Apache Spark, SQL, Scala, and AWS services.

Data Engineer Consultant, S4D Consulting (August 2024 – October 2024)
- Designed and maintained scalable data pipelines, integrating data from various sources, implementing ETL processes, optimizing data models, and ensuring data security using Azure Cloud to support seamless data exchange between Ghana's Ministry of Health (MOH) supply chain and Global Fund (GF) digital systems.

Data Engineer, Bboxx Ltd (September 2022 – March 2023)
- Supports business teams across 14 countries in maintaining and monitoring production data pipelines using AWS, Redshift, EC2, Airflow, DBT, and Docker for business reporting.
- Migrated business data reporting systems from using Google Workspace products to Microsoft equivalents.

Associate Data Engineer, PEG Africa (June 2021 – August 2022)
- Managed and maintained the entire data generation platform, comprising several remote MYSQL DBs, AWS RDS, a custom Odoo ERP system, FTP servers, AWS S3, Amazon EC2 servers and Amazon Redshift.
- Supported business teams across 4 countries by translating business requirements into automated scripts using Airflow, Python and SQL.

Associate Data Scientist, GetInnotized GmbH (August 2019 – June 2021)
- Drove an e-commerce app adoption rate from 19% to 50% within five months for a building and construction company, working with a multicultural team using Python, SQL, and Excel.
- Implemented Regression and Clustering models using Python and Scikit-Learn on Azure Databricks to perform benchmarking analysis for about 300 shops for an international telecom company.

VOLUNTEER/LEADERSHIP EXPERIENCE

Mentor, Rails Girls Ghana (June 2021– March 2022)
- Introduced a group of 4 ladies with no software development experience to programming.
- Reinforced their interest in programming by guiding them to program their own blogs using ruby on rails.

Instructor, Blossom Academy (August 2020 – September 2020)
- Facilitated 3 python programming sessions that prepared 15+ students for a career in data science.
- Curated course materials for Python and Excel courses used in the training of 4 succesive student cohorts.

Mentor and Support Trainer, Azubi Africa (August 2019 – June 2021)
- Assisted in the designing of a three-month intensive Data Science curriculum to train participants from beginner to entry-level competency.
- Provided mentorship in problem-solving and career guidance for 20+ students through the training program.

SKILLS

- Programming Languages: Python, Java, Scala, SQL
- Databases: SQL (PostgreSQL, MySQL), NoSQL (MongoDB, DocumentDB), Data warehouses (Redshift, Snowflake)
- Big Data: Kafka, Spark, AWS EMR, Databricks
- Cloud Technologies: AWS, Azure
- DevOps: GitHub Actions, Terraform, Docker
- Agile Development: Scrum, Jira, Confluence
- Version Control: Git (GitHub, GitLab, Bitbucket)

REFERENCES

- Dr. Vincent Mwintieru Nofong, vnofong@umat.edu.gh
- Mrs. Evalyne Mwangi, evagmwangi@gmail.com
- Mrs. Ama Bembua Bainson, ama@cs.au.dk