Solomon Eshun

Passport: G4848467 | **Place of birth:** Accra, Ghana | **Nationality:** Ghanaian | **Phone number:** (+233) 531592835 (Mobile) |

Email address: solomoneshun373@gmail.com | **LinkedIn:** https://www.linkedin.com/in/solomon-eshun-788568317/ | **Medium:**

https://medium.com/@soloshun | **Github:** https://github.com/soloeinsteinmit/ | **Address:** Accra, Ghana (Home)

ABOUT ME

AI Research Engineer and MLOps Engineer with deep expertise in distributed systems, autonomous agents, and large-scale data pipelines. Proven ability to architect complex infrastructures, from containerised bioinformatics engines to real-time financial forecasting models. Co-author of multiple research publications with a strong foundation in algorithms, databases, machine learning, software engineering, Python, C++, and Java. Passionate about Financial Data Science and the industrialization of AI, with a long-term goal of pursuing advanced research and innovation through the DEAI programme.

EDUCATION AND TRAINING

AUG 2020 – AUG 2024 Cape Coast, Ghana
BACHELOR OF EDUCATION IN COMPUTER SCIENCE University of Cape Coast

Relevant Coursework (Core Computer Science & Mathematics)
Algorithms · Data Structures · Database Management I & II · Operating Systems · Computer Architecture · Software Engineering · Introduction to Artificial Intelligence · Human-Computer Interface · Web Technologies · Programming Technique · Programming & Problem Analysis (Java) · Analytic Geometry & Calculus · Vector Algebra & Differential Equations · Further Calculus · Advanced Calculus I · Computer Security

Website https://ucc.edu.gh/ | **Field of study** Natural sciences, mathematics and statistics | **Final grade** 3.2/4.0 | **Level in EQF** EQF level 6

SKILLS

Programming & Data Science

Python · JavaScript / TypeScript · Java · C++ · SQL · MQL5 | Pandas · NumPy · Scikit-learn · PyTorch · TensorFlow

Distributed Systems, Data Engineering & Deployment

Celery · RabbitMQ · Redis · Docker · DigitalOcean · FastAPI · Node.js | ETL Pipelines · API Development · Data Modelling & Database Design | Scalable Services · Large-Scale Validation (20k+ molecules/run)

Databases, Version Control & Collaboration

MySQL · PostgreSQL · MongoDB · SQLite | Git · GitHub

Machine Learning, AI & Research

Agentic AI Systems · Retrieval & Search Pipelines · Time-Series Forecasting | Supervised & Unsupervised Learning · Deep Learning (Transformers, LLMs, ViTs, VLMs , CNNs, LSTMs) | Reinforcement Learning · Computer Vision | Model Evaluation & Backtesting · Benchmarking & Experimental Design | Explainable AI (XAI) · Probabilistic Modeling · Algorithmic Trading

Web & Software Engineering

React · Next.js · Node.js · JavaFx · React Native · Prisma ORM · REST APIs | System Design · Agile · Scrum · Extreme Programming (XP)

RESEARCH EXPERIENCE

OCT 2024 – DEC 2025
AI Research Engineer - minoHealth AI Labs

- Architected the Moremi Bio autonomous agent, integrating 20+ bioinformatics and computational biology tools (C++, Java, Perl, Python) into a unified, containerised research pipeline.
- Designed a large-scale molecular validation system capable of processing and ranking 20,000+ protein and SMILES molecules in multi-day computational runs.
- Built a React-based 3D molecular visualization using 3Dmol.js and analytics platform used in drug discovery research.
- Contributed to four co-authored publications (2025) in biomedical AI, agentic systems, and antibiotic discovery.

PUBLICATIONS

Moremi Bio Agent: Using Neisseria meningitidis Reference Data For The Double Blinded Validation of A General Purpose Biology-Trained Reasoning Model for Pathogen and Antigen Discovery

Submitted for peer review (2025) | Collaborative research with *Imperial College London, Infectious Disease*, London, UK

2025
Moremi Bio Agent: Leveraging Agentic Large Language Model for the Discovery of Broad-Spectrum Antibiotics for Enterobacteriaceae - doi: https://doi.org/10.1101/2025.08.21.671656

2025
Can Large Language Models Design Biological Weapons? Evaluating Moremi Bio - arXiv:2505.17154

2025
Moremi Bio Agent: Application of A Foundation Model and End-to-End Automation in the Design and Validation of Monoclonal Antibodies Targeting Plasmodium falciparum Invasion Complex - doi: https://doi.org/10.1101/2025.02.12.637967

Collaborative research with *West African Centre for Cell Biology of Infectious Pathogens(WACCBIP)*, University of Ghana, Accra

PROJECTS

Building a Large Language Model from Scratch

A Public Learning Journey - PyTorch
- Developing a functional LLM from first principles to explore transformer architectures, attention mechanisms, tokenization, and training workflows.
- Documenting the entire process through open-source code, visualizations, and educational articles to make advanced AI concepts accessible. Github | Medium

Quantitative XAU/USD Session Strategy

Independent Research - Quantitative Finance (Time-Series Modelling)
- Built an end-to-end pipeline to benchmark XGBoost, LSTM, and Transformer architectures for financial market direction and return prediction.
- Implemented full workflow: data acquisition via MetaTrader5 API, feature engineering, modelling, evaluation, and backtesting. GitHub | Hypothesis A Result - Medium

DS.AlgoDeck – Interactive Data Structures & Algorithms Platform

Open-Source Educational Platform
- Designed and built an interactive learning platform for teaching data structures through visualizations.
- Implemented instruction-friendly animations and hands-on exercises to support CS education. Homepage | Live Playground

WORK EXPERIENCE

L3 MLOPS ENGINEER - REMOTE – ENBW ENERGIE BADEN-WÜRTTEMBERG AG (VIA ISHANGO AI, LONDON UK)
– Dec 2025 – Current – KARLSRUHE, GERMANY

Website: https://www.enbw.com/company/

- Supporting enterprise-scale MLOps initiatives for a leading European energy provider, focusing on production ML infrastructure, deployment pipelines, and operational reliability.
- Working within regulated, high-availability environments to enable scalable model deployment, monitoring, and retraining workflows.

FOUNDING MACHINE LEARNING ENGINEER(R&D) - PART-TIME REMOTE – NOEUD – Oct 2025 – Current – ACCRA, GHANA

Website: https://www.getnoeud.com/

- Leading research and prototyping of real-time financial forecasting systems using XGBoost, LightGBM, Temporal Fusion Transformers and deep time-series models.
- Designing end-to-end pipelines from data ingestion to deployment and continuous retraining for live market prediction systems.
- Exploring probabilistic forecasting, regime detection(Hidden Markov Model), and multi-horizon prediction for trading and risk analytics.

MACHINE LEARNING ENGINEER – MINOHEALTH AI LABS – Sep 2024 – Nov 2025 – ACCRA, GHANA

Website: https://minohealth.ai/

- Built the *Moremi Deep Research Agent*, achieving a RACE score of 46.3 on the DeepResearch Bench (ranked 3/18 agents), demonstrating advanced autonomous reasoning and research capabilities.**(moremi.ai)**
- Engineered the *Moremi Bio Co-researcher*, *Moremi AI Agent* and *Moremi Search*, deployed on the production platform **(moremi.ai, blog)** and used in real-world research workflows.
- Architected the Moremi Bio autonomous agent, the core technology behind four co-authored 2025 research publications.
- Designed a containerised bioinformatics tool using Docker + FastAPI, integrating 20+ heterogeneous tools (C++, Python, Java, Perl) into one reproducible pipeline.
- Built a scalable distributed task orchestration system with Celery, RabbitMQ, and Redis to dynamically schedule heterogeneous bioinformatics workloads, enabling concurrent multi-hour molecular dynamics simulations and real-time protein/SMILES processing across shared worker pools.
- Developed a high-throughput molecular validation and ranking system capable of processing *20,000+ protein and SMILES molecules* in a single, multi-day run.
- Created a React-based 3D molecular analytics interface using 3Dmol.js for visualising drug discovery candidates in real time.

AI ENGINEER & DRONE PILOTING/MAPPING ENGINEER(CONTRACT) – KARAAGRO AI – Oct 2024 – Nov 2025 – ACCRA, GHANA

Website: https://karaagro.com/

- Deployed a YOLOv12 computer vision model for cashew stress detection across *42 farms in 28 communities* as part of a GIZ-funded CADI AI pilot.
- Led end-to-end drone mapping operations, collecting and annotating a *148GB* agricultural dataset on Roboflow.
- Trained farmers on integrating AI-powered agronomic insights to improve crop health and yield.

AI INSTRUCTOR(CONTRACT) – RUNMILA AI INSTITUTE – Jul 2025 – Sep 2025 – ACCRA, GHANA

- Delivered the 2025 Generative AI & Python Summer Camp for students from *Montserrat, Grenada, and Dominica*.
- Taught hands-on sessions on Python programming, large language models, vision-language models and AI agents.

LANGUAGE SKILLS

Mother tongue(s): **ENGLISH**

VOLUNTEERING, LEADERSHIP & INTERNATIONAL ENGAGEMENT

Mentor — Tech & Beyond Expo (Academic City University, 2025)

Presented a session on *"Software Engineering in the Age of AI"*, guiding students through modern AI assisted development workflows.

Mentor — Global Code 3-Week Bootcamp (University of Cape Coast, 2025)

Mentored participants in Python, IoT, and AI integration; supported multiple student capstone projects.

Facilitator — Ghana Data Science Summit / IndabaX (Ashesi University, 2025)

Led hands-on sessions on LoRA-based fine-tuning and vision–language models, contributing to national AI capacity-building.

Community Contributor — Medium

Publishes accessible articles explaining AI, machine learning, and LLM concepts for beginners and practitioners (medium/@soloshun).

CERTIFICATIONS & AWARDS

GlobalCode Certificate — 3-Week Programming Camp (2023)

Training in Python, Raspberry Pi, and foundational programming concepts.

Professional Certificate — Robotics, Arduino & IoT (2023)

Hands-on certification demonstrating ability to design and prototype embedded systems.

Award: Best Participant — Robotics and IoT TransforME Project (2023)

Recognised for outstanding performance and innovation in IoT-based engineering projects.