

Prince Mensah

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WORKING EXPERIENCE

RG Partners

AI Developer

Sep 2025 – Present

Kigali, Rwanda

- Developing SoraAI, an AI-powered tax guidance chatbot for Rwanda's tax compliance system using Next.js, TypeScript, and advanced AI SDKs
- Implementing multilingual support (English, French, Kinyarwanda) with real-time chat functionality and voice interaction capabilities
- Building intelligent document processing pipeline for tax law database ingestion, PDF parsing, and structured compliance data extraction

SevenX

Artificial Intelligence Engineer

Jul 2025 – Sep 2025

Kigali, Rwanda

- Building RESTful APIs and fine-tuning large language models for healthcare applications, including medical text analysis and patient data processing systems
- Developing scalable AI architectures using Docker containers and microservices for deployment in healthcare environments with strict compliance requirements
- Implementing model versioning and monitoring pipelines for healthcare AI systems, ensuring reliability and accuracy in clinical decision support applications

InstaDeep

AI Research Engineer Intern

Dec 2024 – April 2025

Kigali, Rwanda

- Researched on physics-informed deep learning approaches for remote sensing applications, focusing on vegetation parameter estimation from satellite imagery
- Collaborated with research teams to develop a novel Transformer-PROSAIL-VAE architecture for environmental monitoring

ALX Africa

Software Engineer Intern

Sep 2022 – Dec 2022

Accra, Ghana

- Built RESTful APIs for real-time data synchronization and integrated third-party services including payment gateways and shipping providers
- Implemented automated testing suites and CI/CD pipelines using GitHub Actions and Docker for continuous deployment and quality assurance

KNUST

Research & Teaching Assistant

Oct 2021 – Nov 2022

Kumasi, Ghana

- Tutored undergraduate students in courses including Differential equations, Numerical methods, and Linear algebra
- Collaborated with faculty on research projects involving numerical methods, differential equations, and advanced linear algebra
- Designed tutorial materials and mid-semester exams while maintaining regular office hours for student support

EDUCATION

African Master's in Machine Intelligence (AMMI)

Master of Science in Machine Intelligence

Feb 2023 – Nov 2024

African Institute for Mathematical Sciences (AIMS)

Master of Science in Mathematical Sciences

Nov 2022 – Aug 2023

Kwame Nkrumah University of Science and Technology (KNUST)

Bachelor of Science in Mathematics

Oct 2017 – Nov 2021

PROJECTS

Physics Informed Transformer-VAE for Biophysical Parameter Estimation | *Transformer, PROSAIL* 2024
ML/CV *Personal Project*

- Developed a novel architecture combining transformer networks with physics-based radiative transfer modeling for accurate biophysical parameter retrieval from Sentinel-2 satellite imagery.
- Implemented self-attention mechanisms to capture complex spectral relationships while maintaining physical consistency through the PROSAIL model, significantly improving feature extraction and parameter estimation.
- Project link: [\[GitHub\]](#)

Text Summarization System | *FastAPI, Streamlit, Transformers* 2024
NLP *Team Project*

- Developed a full-stack text summarization system with FastAPI backend for authentication and transformer-based summarization
- Implemented user-friendly Streamlit frontend for text input and summary visualization, with comprehensive API documentation
- Project link: [\[GitHub\]](#)

Sentiment Analysis on Movie Reviews | *BERT, Apache Airflow, MLflow* 2023
NLP *Team Project*

- Developed an end-to-end ML pipeline for sentiment analysis using BERT, orchestrated with Apache Airflow for automated workflow management
- Implemented MLflow for experiment tracking and DVC for data versioning, with FastAPI for model deployment
- Project link: [\[GitHub\]](#)

Question-Answering System | *Flask, Streamlit, Docker, SentenceTransformers* 2023
NLP *Personal Project*

- Developed a Question-Answering (QA) system capable of processing user queries and returning relevant passages from a given corpus as answers. The system leverages advanced machine-learning techniques and efficient data retrieval mechanisms
- Implemented Generative AI (GPT 2) model to provide direct, concise answers based on retrieved passages, and utilized Streamlit to create a UI to interact with the ML system
- Project link: [\[GitHub\]](#)

Connection Between American Corporate Elite | *Social Network Analysis with Networkx, igraph* 2023
Data Science *Personal Project*

- Utilised Networkx package to critically analyze the connections that exist between the American Corporate Elite in the US during the 1980s and 1990s
- Employed various methods to calculate important metrics (Eigenvector centrality, betweenness centrality, degree centrality, etc.) and used igraph to identify subgraphs and communities in the network

TECHNICAL SKILLS

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- **Languages:** Python, JavaScript, TypeScript, C/C++, MATLAB, SQL, R
 - **AI & ML:** PyTorch, JAX, RAG, Flux, Hugging Face Transformers
 - **Backend & APIs:** FastAPI, Flask, Streamlit, Docker, RESTful APIs
 - **DevOps & Deployment:** Git, MLflow, Apache Airflow, DVC, Docker, AWS

AWARDS & CERTIFICATION

Young African AI Research Fellowship (YAAR) 2023
Research Award *Ascend 360*

- Prestigious award initiated at Deep Learning Indaba Conference 2023, sponsored by Jeff Dean, Chief Scientist at Google DeepMind and Google Research
- Selected to nurture and develop emerging AI talent across the African continent