PRINCE MENSAH

Kigali, Kigali city, Rwanda

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PROFESSIONAL SUMMARY

Proven experience developing end-to-end AI solutions—from fine-tuning models to deploying web interfaces using FastAPI, Streamlit, and Docker. Passionate about solving real-world problems through intelligent automation and scalable software architecture.

EDUCATION

African Master's in Machine Intelligence (AMMI)   *Feb 2024 – Nov 2025*
Master of Science in Machine Intelligence

African Institute for Mathematical Sciences (AIMS)   *Nov 2022 – Aug 2023*
Master of Science in Mathematical Sciences

Kwame Nkrumah University of Science and Technology (KNUST)   *Oct 2017– Nov 2021*
Bachelor of Science in Mathematics

PROJECTS

Text Summarization System | *LLM-based, FastAPI, Streamlit, Transformers*
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*
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*
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]

Cassava Leaf Disease Classification Competition (1st Place) | *ResNet, Streamlit, Docker*
ML/CV   *Kaggle Competition*

- Utilised the ResNet50 model for cassava leaf disease classification, and built a web app using the model to classify cassava leaf images into one of several categories to help identify common diseases.
- Project links: [Leaderboard] [Web App]

TECHNICAL SKILLS

Languages	Python, JavaScript, C/C++, MATLAB, R
AI & ML	PyTorch, Hugging Face Transformers, OpenAI API, BERT, GPT-2
Backend & APIs	FastAPI, Flask, Streamlit, Docker, RESTful APIs
DevOps & Deployment	Git, MLflow, Apache Airflow, DVC, Docker, AWS (basic)
Other Tools	Pandas, NumPy, SQL, LaTeX, Power BI, Tableau

WORK EXPERIENCE

InstaDeep Ltd   Dec 2024 – April 2025
AI Research Fellow   *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-prosailvae architectures for environmental monitoring.

Industry Immersion Africa   Sep 2023 – Nov 2023
Course Tutor   *Accra, Ghana*

- Facilitated hands-on supplementary curriculum for industry-focused students.
- Tutored courses including Introduction to Power BI, Advanced Microsoft Excel for Data Analytics, Introduction to General Management, Data & Decisions, and Agile Leadership.

Galois Analytics Limited   Feb 2023 – Aug 2023
Data Science Instructor   *Accra, Ghana*

- Delivered lectures and conducted workshops on predictive analytics, machine learning, data visualization, and programming in Python and R.
- Engaged in collaborative curriculum design and strategic planning with program coordinators.
- Provided comprehensive guidance through hands-on practical sessions to enhance student understanding of data science concepts.

KNUST   Oct 2021 – Nov 2022
Research & Teaching Assistant   *Kumasi, Ghana*

- Tutored undergraduate students in course 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.

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.

Master's in Mathematical Sciences Scholarship   2022
Academic Award   *AIMS*

- Full scholarship awarded by African Institute for Mathematical Science in collaboration with Ghana Government.
- Awarded to talented postgraduate students from the African continent for studies at AIMS-Ghana.

GNPC Scholarship Award
Academic Award

2017
Ghana National Petroleum Corporation

- Competitive scholarship awarded to Bachelor's students demonstrating excellent academic performance.
- Supported my entire undergraduate education at KNUST.

AWS Certification
Professional Certification

2023
Amazon Web Services

- Completed Python for Machine Learning and Deep Learning Program.
- Gained proficiency in building ML and DL algorithms on AWS platform.