

Frederick R. Apina

ML ENGINEER

Madeira, Portugal

☎ (+351) 922-242-071 | ✉ fred.apina@gmail.com | 🏠 frederickapina.com | 📺 apixworks | 📄 frederick-apina

“Always work hard on something uncomfortably exciting.”

Education

University of Madeira

MSc. IN COMPUTER SCIENCE & ENGINEERING

Madeira, Portugal

Ongoing

University of Dodoma

BSc. IN SOFTWARE ENGINEERING

Dodoma, Tanzania

Nov. 2019

- Presented two posters of the undergraduate research I had been doing at Black in AI and ML4H at NeurIPS.

Skills

Programming Python, Java, MongoDB, SQL, GraphQL, Git (Version Control)

ML Engineering PyTorch, Scikit-Learn, Airflow, Kafka, Pandas, Matplotlib, Docker, FastAPI, Streamlit, MKDocs, PyTest, Github Actions, Jenkins

Computer Skills Linux, Windows

Languages English, Swahili

Experience

Interactive Technologies Institute

ML RESEARCH ENGINEER

Portugal

Sep. 2023 - Present

- Building and optimizing ML models for energy demand forecasting in distributed energy resources for smart grids.
- Creating interactive dashboards and visual reports using tools like Streamlit and Matplotlib to communicate insights effectively.
- Develop FastAPI-based APIs and deploy ML models for real-time forecasting.
- Research advanced techniques like federated learning for energy systems.

e-Government Authority (eGA)

SOFTWARE ENGINEER

Tanzania

Jan. 2023 - Oct. 2024

- Migrated a critical USSD and Messaging monolith to a microservices architecture with Spring Boot.
- Enhanced the Government Marine Services eTicketing System using JavaFX and Spring Boot for better performance.
- Built a backend engine that converts Flutter UI metadata in JSON format into a fully functional Flutter app.

Vodacom

SOFTWARE ENGINEER

Tanzania

July. 2021 - Jan. 2023

- Developed Vodacom's 5G routers Online shop and management system backend
- Developed Vodacom's AfyaCall Mini-app backend
- Maintained Vodacom's website and mobile app backend
- Utilized Docker to make deployments portable.
- Developed automation pipelines for automated code reviews and deployment using Jenkins.

Belltro

ML ENGINEER

Tanzania

Nov. 2019 - May. 2021

- Built a Swahili news classification algorithm to categorize unclassified news upon ingestion into data repository.
- Developed and maintained a data pipeline to scrape from disparate data sources, ingest, and store Swahili news in MongoDB using Python.
- Created and managed an API which provided news data to a mobile app consumer.

ParrotAI

ML SOFTWARE ENGINEER

Tanzania

Apr. 2018 - Nov. 2019

- Worked on different Machine Learning projects from clients to help companies with data analytics.
- Customized LabelImg open source tool so that it is able to perform auto-labeling using deep learning models.
- Created a mobile app to detect banana leaves plant diseases by capturing image of the affected region and processing it using computer vision algorithms.

Undergraduate Research, University of Dodoma

Tanzania

UNDERGRADUATE RESEARCHER

Nov. 2018 - Oct. 2019

- Researched means of detecting Plasmodium parasites from blood smear microscope images using object detection algorithms.
- Implemented prototype that can assist lab technicians in detecting plasmodium parasites from blood smear images taken under a microscope.

Extracurricular Activity

Masakhane(A grassroots NLP community for Africa, by Africans)

Africa

MEMBER

Sep. 2019 - PRESENT

- Gaining expertise in dealing with NLP data, especially working on low-resource languages.

GDG Dodoma (Google Developer Group)

Tanzania

ORGANIZER

Jul. 2020 - June. 2022

- Building a developers community in Dodoma on weekends.
- Motivating coding in solving society problems.

CIVE-AI Community

University of Dodoma

CORE MEMBER & PRESIDENT AT 2016-2017

Aug. 2016 - Jul. 2017

- Building the first machine learning community at the University of Dodoma.
- Motivating students to engage in machine learning and artificial intelligence.

Honors & Awards

INTERNATIONAL

2019 **Winner**, The AI4D (AI For Development) Africa Innovation

Africa

DOMESTIC

2020 **Finalist**, The Vodacom Digital Accelerator

Tanzania

2019 **2nd Award**, ZINDI Data Hackathon Challenge

Tanzania

Referees

Anthony Faustine

Dublin, Ireland

LEAD DATA SCIENTIST

- Eaton, Ireland
- sambaiga@gmail.com

Feruzi Hassan Mtali

Dodoma, Tanzania

LECTURER

- College of Informatics and virtual Education, University of Dodoma
- feruzihm@gmail.com