GILBERT YIGA.

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Professional Summary

Innovative Machine Learning Engineer and Full-Stack Developer with proven expertise in deploying AI-powered solutions to production. Specialized in building intelligent systems that drive revenue and enhance user experiences through machine learning, NLP, and recommendation systems. Strong track record in developing scalable web and mobile applications with integrated ML capabilities. Experienced in creating monetization features and optimizing content delivery platforms. Passionate about leveraging AI to solve real-world problems and create impactful digital products.

Professional Experience

Part-time Software Engineer
Sunbird AI, Naguru
November 2023 - Present
- Collaborate with the Machine Learning team on Natural Language Processing initiatives, enhancing linguistic data interpretation capabilities. Spearhead the deployment of machine learning models into production environments, ensuring robust, scalable solutions.

Part-time Machine Learning Engineer
Emergent AI,
April 2024 - Feb 2025
- Specializing in computer vision, I collaborate with cross-functional teams to pinpoint opportunities in health datasets for the application of computer vision and machine learning, develop tailored machine learning models to tackle health-related challenges, apply advanced computer vision techniques to extract valuable insights from the dataset, work closely with domain experts to translate health domain knowledge into effective machine learning solutions, and continuously refine models to ensure precise identification and resolution of health-related issues.

Software Developer
Pahappa Ltd, Ntinda, Muteesa II
August 2022 - October 2023
- Worked with the software development team on projects for enterprise applications, including Customer Relationship Management (CRM) systems, optimizing business operations at scale.
Developed and implemented software solutions that streamlined business processes and improved operational efficiency for various organizations.

Machine Learning Engineer Intern
AI Lab, Makerere University
November 2021 - May 2022

- Engaged in cutting-edge machine learning projects aimed at addressing real-world agricultural challenges, improving crop disease detection and management.
Applied machine learning techniques to develop predictive models that support sustainable agricultural practices.

Freelancer, Web Development
January 2021 - 2023.
- Designed and developed websites for several organizations, including a significant project for Abacus Finance Ltd, Uganda, enhancing their digital presence and operational capabilities.
Provided end-to-end web solutions, from initial concept through deployment, focusing on user-friendly design and functionality.

Education

M.Sc. in Computer Science (Ongoing)
Makerere University, Kampala
Aug 2024 - To date.

B.Sc. in Computer Science (CGPA: 4.65 - First Class)
Makerere University, Kampala
2021 - 2023
- Best Student Comp Sci of the Year.

O & A Level
Kisaasi College School, Kisaasi, Wakiso
2013 - 2018

Public Projects

Production ML Model Deployment
- Deployed Sunbird translation and speech recognition models to production with high availability
- Implemented model serving infrastructure handling real-time inference requests
- Built monitoring and logging systems to track model performance and usage metrics

WhatsApp API Integration & Data Collection System
- Designed a webhook architecture using Django for handling real-time messaging
- Built an admin review system for data management and quality control
- Integrated official WhatsApp Business API for scalable messaging solutions

Worked on the Sunbird translation and speech transcription systems.
- These are React applications that are public on the Sunbird GitHub repo.

Model deployment with the Sunbird models.
- Deployed both the Sunbird translation and Speech recognition models to production.

Low-resource Language Identification.
- Developed a language identification model with text for multiple local languages.

Blood Donation Uganda.
- Developed a mobile application to facilitate blood donations across Uganda.

Machine Learning for Black Sigatoka Detection.
- Created a model to detect Black Sigatoka in banana plantations, implemented in mobile applications.

Skills

Machine Learning & AI
Machine Learning Frameworks: TensorFlow, PyTorch, Scikit-learn
ML Specializations: NLP, Computer Vision, Recommendation Systems, Predictive Modeling
Model Deployment: Production ML pipelines, API integration, Model optimization

Programming Languages
Python (Django, Flask, Data Analysis, ML, Pandas, NumPy)
JavaScript/TypeScript (React, Node.js, Express)
Java (Spring, Hibernate, Maven, JSF)

Certifications

- Mobile Development with Flutter, Online | 2022
- Web Development, Online | 2021
- Text Classification NLP, Online | 2024
- Machine Learning in Production, Online | 2024
- Human Research Protection Training by US Department of Health and Human Services (HHS), Online | 2024

Languages

- English, and Luganda

Interests

- Machine Learning, Data Analysis, Data Science, and Software Development.

Referees

Engineer Baniomugisha
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