Banadda Mubaraka

https://github.com/BANADDA

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LANGUAGE

- Luganda

- English

PROGRAMMING SKILLS

- **Languages**: Python, Javascript, C, Java, Dart
- **Frameworks & Libraries (Mobile & Web App Dev)**: React.JS, React Native, Material UI, Tailwind CSS, Django, Flask, Flutter, Next.JS, Node.JS
- **Frameworks & Libraries (Machine Learning)**: TensorFlow, Keras, Pandas, OpenCV, Pytorch, MatplotLib
- **Databases**: SQL and NoSQL (MongoDB, Firebase, MySQL)

PROJECTS

- **Bean Disease Detection** — Computer Vision

  Research Assistant — *Mar 2022 - July 2023*

  - **Data Collection**: Carried out data collection for the different classes of beans (including healthy and diseased leaves) using cameras
  - **EDA**: Analysed the collected maize images, and weeded any unncessary files
  - **Model Development and Evaluation**: Worked with a team to come up with a mchine learnning model that could be able to detect diseased bean leaves using computer vision

- **Common Voice** — Speech Recognition

  Research Assistant — *Mar 2022 - Jan 2023*

  - **EDA**: Together with a team of data engineers at Makerere AI Research Lab, analysed, and built data cleaning pipelines for the audio data collected for the Common Voice platform

- **Explainable AI for Plant Disease Diagnosis** — Realtime Plant Diagnosis

  Software Engineer, Research Assistant — *Oct 2022 - July 2023*

  - **Data Collection**: Carried out data collection for the different classes
  - **EDA**: Was responsible for coming up with a data clean and analysis pipeline
  - **Model Development and Evaluation**: Together with the team, experimented on different machine learning models on our dataset
  - **Explainability**: Designed an explainable AI pipeline using explainability frameworks such as LIME, SHAP, GradCam
  - **Model Deployment**: Was tasked with deploying the machine learning model on both the mobile app and web application

- **Tomato Mosaic Disease Detection** — Computer Vision

  Software Developer — *April 2023 - June 2023*

  - **Model Deployment**: Was responsible for building Fast APIs for model deployment, and also building mobile application for tomato mosaic disease detection using react native and expo

- **Hostel Finder** — Mobile Application

  Software Developer — *Jan 2022 - Mar 2022*

  - **Market Research**: Carried out market research on different hostels around Makerere University to determine challenges students face while looking for hostel and rental spaces around campus
  - **Mobile App Development**: Designed a hybrid mobile application using flutter, Firebase and google maps APIs that enable university and college students to locate and make bookings in different hostels and rental houses around campus

  https://github.com/MyHOSTEL-GROUP31/MyHostelApp

- **Weather Expert** — Web Application

  Software Developer — *Dec 2022 - Jan 2023*

- **Web App Development**: Designed a real-time weather application using React.JS, that utilizes google maps weather APIs to provide real time weather updates, as well as forecasts

  https://github.com/BANADDA/react_weather_app

- **Todo List** — Web Application

  Software Developer — *Sep 2022 - Nov 2022*
  - **Web App Development**: Designed a task scheduler using React.JS that enabled people to keep track of their daily tasks

  https://github.com/BANADDA/todo_app_react

- **Budget Calculator** — Web Application

  Software Developer — *Sep 2022 - Nov 2022*
  - **Web App Development**: Designed an expense tracker web app using React.js that enables users to keep track of their daily expenses

  https://github.com/BANADDA/budget-calculator/tree/main/budget-calculator

CERTIFICATION

- **Makerere University** — Kampala, UG

  Bachelor of Science in Computer Science; GPA: 3.58 — *Aug. 2020 – Jan. 2024*

- **Luzira Senior Secondary School** — Kampala, UG

  UACE PCM/ICT; Points: 14 — *Jan. 2017 – Dec. 2018*

- **Luzira Senior Secondary School** — Kampala, UG

  UCE; AGG: 35 — *Jan. 2012 – Dec. 2015*

- **Jojana P/S School** — Kampala, UG

  PLE; AGG: 13 — *Jan. 2004 – Dec. 2011*

EXPERIENCE

- **Makerere AI Research Lab** — Kampala, UG

  Data Engineer — *July 2023 - Present*
  - **Data Pipelines**: Established data pipelines to handle data collection and storage
  - **EDA**: Oversee data collection, cleaning and preparation from different prompt engineering teams
  - **Monitor Team**: As a team lead, monitor teams and setup data collection guidelines

- **Indabax Uganda Makerere University** — Kampala, UG

  Research and Teaching Assistant — *Feb 2023 - Present*
  - **Organise Events**: As part of the IndabaX team of Makerere University, I was responsible for organising events such as learning sessions and hackathons for students to engage in
  - **Tutor**: I carried out teaching sessions where I taught machine learning to students, and other ML enthusiasts
  - **Monitor Student Teams**: I also monitored student teams during hackathons, and advised students on how to improve their projects, and also help solve their challenges

- **Makerere AI Research Lab** — Kampala, UG

  Intern — *Aug 2022 - Oct 2022*
  - Worked as Data Engineer Intern where I was exposed to the latest technologies in Machine Learning field.
  - Developed Machine Learning Models using Keras and TensorFlow framework.
  - Carried out data collection and annotation, and also data analysis.
  - Worked with the Lab's engineers to develop APIs using Django & DjangoREST Framework.
  - Deployed ML models using Flutter Framework and React.JS.
  - Tools: Django, DjangoREST Framework, REST APIs, Flutter

HOBBIES

- Video Gaming
- Researching
- Listening to Music
- Philosophy

REFERENCES

- **Ggaliwango Marvin**, PhD
  Machine Learning Engineer and AI Researcher
  Department of Computer Science, Makerere University
  Email: mggaliwango@gmail.com

- **Hellen Namulinda**
  Research Scientist, Makerere AI Research Lab
  Email: hellennamulinda@gmail.com

- **Tobius Saul Batesa**
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