Emmilly Immaculate Namuganga

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Address: Entebbe, Uganda (Home)

ABOUT ME

I have an immense love for learning and finding new ways of doing things. Figuring out how things work is my cup of tea. I believe nothing is hard, it may just require more resources, like time.
I draw inspiration from the remarkable minds of individuals, like Richard Feynman and the Harvard professor David J. Malan.
I am currently interested in solving problems regarding how to efficiently handle the constantly growing amount of data through innovative solutions such as instance-optimized systems, high-performance computing, distributed computing, and databases.
I also find deep fulfillment in volunteering and extending assistance to those who require support.

WORK EXPERIENCE

01/06/2024 – CURRENT Saabrucken, Germany
RESEARCH INTERN MAX PLANCK INSTITUTE FOR SOFTWARE SYSTEMS

Benchmarking learned systems (Testing the application of Machine learning to databases specifically database indexes such as btree)
- **Experimental analysis** with several benchmarks for learned systems
- Using analysis tools to visualize results of **experiments** such as **pandas** and **numpy** and matplotlib
- Brainstorming research project ideas with my supervisor
  • Keeping up to date with recent papers in the field
  • Journaling project steps using **Notion**

01/07/2023 – 01/09/2023 Geneva, Switzerland
OPENLAB SUMMER INTERN AT CERN 2023 EUROPEAN ORGANISATION FOR NUCLEAR RESEARCH

• Identifying and fixing **accessibility** issues with the authentication services, such as single sign on, to ensure people with disabilities are able to easily navigate and use the system.
• Gaining proficiency in **Web Accessibility Guidelines**.
• Using front-end frameworks, like React JS, Java free maker etc.
• Attending lectures on advanced computing topics, such as high parameter optimisation, quantum computing, security etc.
• Attending **standup meetings** and progress-presentations.
• Taking part in **team building** activities.
• Using gitlab for version control.

04/12/2022 – 31/12/2023
MOBILE APPLICATION DEVELOPER MIKEDCARES LTD

-Building an MVP mobile application with flutter and firebase for mothers and therapists.
  • implement chat features to enable exchange of text information
  • implement video call feature using third party zego cloud
  • implemement goople payments using stripe to enable patient make payments for sessions.
  • implement notifications and reminders to notify patients and therapists of their meeting shedules.
  • implement mood loggers to help patients log their moods.

10/08/2022 – 25/12/2022
VOLUNTEER FACILITATOR EDUCATING THE CHILDREN

- Empowering women through teaching them coding skills in **html, css and javascript in order** to enable them to break into the tech space and get employment.
- Holding coding classes and discussing programmimg concepts.
- Helping in **code debugging** and motivating the ladies to keep going when they face difficulties.

01/08/2022 – 28/02/2023
TRAINEE TEACHER CHONGQING COLLEGE OF ENGINEERING

I guided the class through **cloud technologies** used for IoT, for example AWS IoT Core Features like:
- MQTT,
- Message brokers,
- Device shadow.

EDUCATION AND TRAINING

08/2019 – 15/02/2023 Kampala, Uganda
BACHELORS IN COMPUTER SCIENCE Makerere University

I enjoyed getting to learn **how a computer works** through topics like computer organisation and architecture, systems programming, **data structures and algorithms** and how different algorithms **have different execution times.** Other topics like Computer networks and Data Communication, System Analysis and Design, Operating Systems, User Interface design, Data Warehousing, and other computer skills.

Address Kampala -, Kampala, Uganda ┃ **Website** https://www.mak.ac.ug/ ┃ **Final grade** 4.31/5.00

08/2022 – 03/2023 Lagos-online, Nigeria
MOBILE APPLICATION DEVELOPMENT Tech4Dev

I gained technical skills in using variuos frameworks, such as **Flutter, for mobile app development, and Kotlin**, where I learned about topics such as **widgets and state management** and made several apps that utilised services such as **Firebase authentication, Firestore database and making API calls** to fetch the data. I also gained proficiency in working with **packages** to implement **user interfaces**.
I also learned about code structuring principles such as **separating Views and logic, and file structuring** teqniques, such as using services folders, repository folders, and views folders.

Website https://tech4dev.com/

01/04/2023 – 31/05/2023 Abuja - Online, Nigeria
SHE CODE AFRICA CLOUD SCHOOL PROGRAM She Code Africa

- Basic introductions to **Microsoft Azure.**
- Experience using **Terraform** to provision infrastructure, like VMs.
- Containerising applications using **Docker**.
- Using **Kubernetes** to deploy container-based apllications.

Website https://shecodeafrica.org/ ┃ **Field of study** Cloud technologies ┃ **Final grade** Top 8 out of 50 ladies selected

06/2022 – 06/2022
AMAZON WEB SERVICES CLOUD PRACTITIONER Amazon

Doing the Amazon Cloud Practitioner introduced me to the **use cases of cloud computing** in day to day business activities and the immense potential it presents to how technology is used in terms of **real time applications**, **data storage**, **data analysis and billing options.**

08/2021 – 12/2021 Kampala, Uganda
CODE QUEEN WEB DEVELOPMENT BOOTCAMP Educating The Children

Aside from learning the basics of **html, css, javascript and bootstrap,** I was able to learn how the **backend connects to the frontend** using **node.js,** how apps are hosted, how user data is handled in web applications etc. This further helped me to use node.js as a backend for my applications.

Address Kampala -, Kampala, Uganda | **Website** https://www.etc.education/

07/2020 – 02/2021
GOOGLE AFRICA DEVELOPER TRAINING PROGRAM-ANDROID DEVELOPMENT Google

This being my first training in **Android development in Java,** I got introduced to making layouts with **XML** and using various concepts such as **adapters, listviews, MVVM architecture** and **state binding**.

PROJECTS

23/06/2023 – 30/06/2023
Deploying a node.js fullstack application to Azure Kubernetes Services.

Deployed a **fullstack node.js application** to an Azure Kubernetes Cluster. The app was displaying query results to the user.
- Used **terraform** to provision resources such as MS-SQL database, Azure Container Registry, Azure Kubernetes Cluster.
- Connected the node.js app to an **Azure MS-SQL database** and performed queries on the database to display results.
- Containerised the application using **docker**.
- Pushed the image to **Azure Container Registry.**
- Used .yml files to deploy the app on **Azure kubernetes Service**.

Link https://github.com/maqamylee0/SheCloudSchoolDevOps

2022
Disease detection in poultry using Machine learning - Undergrad final project

Created a mobile application that used a machine learning model to detect poultry diseases from images of their droppings.
- Trained a model using **transfer learning** from an **efficient net B6 model**
- Created a **TensorFlow lite model,** and uploaded to 4sync for a download link.
- Created a Python **web app** to access the model and make predictions which was deployed on **Azure cloud.**
- Created a **mobile app** to access and obtain images and make predictions by sending requests to the web service.

- Link to paper - https://dissertations.mak.ac.ug/handle/20.500.12281/15939
- Link to project - https://github.com/Computer-Science-GroupWork/coccidiosis-detector

Links https://dissertations.mak.ac.ug/handle/20.500.12281/15939 | https://github.com/Computer-Science-GroupWork/coccidiosis-detector

Using AWS Amplify as a backend for flutter tenant application.

The project was meant to teach me how to use **AWS Amplify** instead of Firebase as a backend service. The use-case was a landlord who wants to keep track of his/her **tenant's monthly rent payments**.
Functionalities included the possibility of conducting **CRUD** actions on the **AWS amplify DataStore**.
- Add tenant info to the database.
- Ensure the landlord gets to **add the payments** whenever they are made, in order to update the balance.
- Enable the landlord to keep track of who has **not yet paid** and how much has been **paid in advance.**
- **Allow landlords to renew balances** for every month.

Link https://github.com/maqamylee0/MAnageTenats

01/12/2022 – 31/12/2023
MikedCares Therapy appliation

Features implemented using flutter , firebase, github actions and google cloud and goodle drive
Video calls features to enable live conversations
Chat feature to enable text conversations

sheduling appointments
Notifications and reminders
Mood logging
set up ci/cd to upload apk to google drive

Link https://github.com/MIKEDCAREs-LTD/miked_care

ACHIEVEMENTS

09/2021 – 02/2023
Valedectorian Computer Science Class of 2023

I held the first position in the Computer Science Class at Makerere University Uganda where I was studying on a governement scholarship (based on merit).

Link https://www.linkedin.com/posts/namuganga-emmilly-immaculate_topped-computer-science-class-i-joined-university-activity-7031959800548593664-jaMQ?utm_source=share&utm_medium=member_desktop

1st Runner up MTN MoMo Hackation 2022

I participated in the MTN momo Hackathon, where I was responsible for implememting momo APIs in our platform (MpaMpe - a crowdfunding application tailored for Ugandans) which was awarded 2nd place in Uganda.

Link https://businessfocus.co.ug/mpampe-five-makerere-university-students-develop-app-set-to-connect-the-needy-prospective-funders/

Top 5 - HiPiPo Women In Fintech Hackathon 2021

We were tasked with coming up with financial inclusion solutions using mojaloop, a reference model for payment interoparability. We came up with a crowdfunding platform (MpaMpe). We were among the top 5 participants.

Link https://www.linkedin.com/search/results/all/?keywords=namuganga emmilly immaculate small talk&origin=GLOBAL_SEARCH_HEADER&sid=Pc_

SKILLS

Dart - Flutter

I have over a year of experience with Flutter and have built several apps involving using state management such as bloc, APIs, building several UIs and business logic. The applications include a Donations App, a Tenants app, a Rosary app and a Recipe app

Html, CSS, Javascript and Node.Js

My experience in these comes from teaching them during volunteering at "Educating the children". They include both frontend and backend web development.

C, C++, Python, Java

I am also familiar with these languages and have interacted with them before.

Cloud Computing

I have good understanding of cloud technologies and concepts and have used them in some of my projects.