

EUGENE MWANGI MWANIKI

Electrical and Electronics Engineering Student

I am an Electrical and Electronics Engineering student awaiting graduation from the University of Nairobi. I am inquisitive, hardworking and competitive.

Education

Strathmore School – 2013-2018 (KCPE, KCSE)

University of Nairobi – 2019-to-date (BSc. Electrical and Electronics Engineering)

Experience

Gearbox Kenya Internship

July 2021 – September 2021

I programmed a website application and database management system of an IoT Access Control System. I set up a Raspberry Pi to act as the main server of the system. The software involved a web application to allow for remote access of rooms.

Android Application Development

May 2022 – to-date

I learnt to program Android Applications using Java. I built an app to solve the Wordle Puzzle by NYTimes, an app to solve the 4 pics 1 word game. I built an app to interact with a backend server to process image data. I developed an Android app that interacts with a backend server to send images of sudokus and it sends back the solution. This involved AI and networking.

AI Development

May 2022 – to-date

I have learnt about AI and continue learning about AI. I have built several AI models to do different tasks such as object detection, style transfer, generate entirely new images, model sequential data, classify data and read text, just to mention a few. I have also coded an AI machine learning library from scratch in Python. Moreover, I have used popular AI platforms like TensorFlow and have undertaken and completed

several courses related to this, with certification. I also have experience in the use of PyTorch.

UNReLo Project

June 2022 – June 2024

I have participated in the UNReLo project by the University of Nairobi, which entails conveyance of data from remote nodes to end users using LoRa and a satellite link. I worked on the satellite link and transmission of data from the Gateway to the Ground station, developing both software and hardware. The software was built with .NET framework.

Octavia Carbon Industrial Attachment

June 2023 – October 2023

I worked in the design of PCBs and the writing of software and firmware to run on the Direct Air Carbon Capture (DACC) machines. The firmware was written in C++ and C.

Electronics and Networking Projects

May 2024 – to-date

I have undertaken several electronics projects. One was a system that controlled the lights in a room and turned them on or off depending on the number of people in the room. The latest project I am undertaking is to make a personal home assistant that I give voice commands and can reply with voice, all connected and running on a home server. There are also connections to control different things like lights.

Technical skills

Microsoft Office Suite:

- Excel
- Word
- Access

AI:

- TensorFlow
- PyTorch
- Raw Python

Programming in:

- C, C++, C#
- HTML and CSS
- Python
- Java and Java Script
- Visual C++ and .NET framework

Android App Development:

- Java
- Kotlin

Database Systems using:

- MySQL
- SQLite
- NoSQL – MongoDB

IoT System Development using:

- Raspberry Pi
- Arduino
- Espressif boards

PCB design:

- Altium Designer
- Eagle
- EasyEDA

Product Design using:

- Solid Works

- AutoCAD

Mathematical tools:

- MATLAB
- Octave

For extra information on projects, I have undertaken, and about myself, visit my portfolio on:
<https://eugenemmf.github.io/portfolio/>. You can click on the projects for more information.

For more information on the AI library I have created, you can visit my GitHub repository at:
<https://github.com/EugeneMMF/AI>

Hobbies

Bicycle-riding

Soccer

Puzzle solving and coding of the solutions

IoT

Referees

Fiona Mugambi

Chief of Staff and Partnerships

Lead

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