ALVYNE WAMWEA MWANIKI

Electrical Engineering Student

Hard-working, eager-to-learn final-year electrical engineering student. Equipped with experience in the development of IoT devices. Proficient in programming applications for multiple platforms: Windows, Linux, Android and iOS.

✉ alvynew@gmail.com

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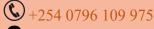📍 Nairobi, Kenya

🌐 https://alvynez.github.io

TECHNICAL SKILLS

Programming in:
- C & C++
- Dart
- Python

IoT System Development using:
- Raspberry Pi
- AVR Atmega chips

Android apps, iOS apps and web development using Flutter.

Database Design and implementation using:
- SQL (MySQL)
- NoSQL (Firebase)

Engineering Simulations and Design using MATLAB.

PCB design and Through Hole components soldering.

INTERESTS

- Programming
- Internet of Things
- Puzzle games
- Video games
- Cycling

EXPERIENCE

UHF Ground Station Implementation
November 2021 - May 2022
- ✓ My undergraduate final year project was to investigate, design, implement and operationalize VHF/UHF ground station for satellite communication.
- ✓ This was a continuation of the NaSPUoN CubeSat project which only made use of non-space-grade components.
- ✓ The project entailed using an ICOM9700 radio to communicate using the UHF band (430-450 MHz) with a nanosatellite bench model.

Gearbox Kenya Internship
July 2021 - October 2021
- ✓ I programmed the main microcontroller of an IoT-enabled Access Control System.
- ✓ The components connected to the main microcontroller included an RFID scanner, ultrasonic sensor, LCD, 4x4 keypad and Wi-Fi module.
- ✓ A fully-functional prototype of the system was implemented and tested.

Nano-Satellite Platform University of Nairobi (NaSPUoN) development
October 2020 – September 2021
- ✓ NaSPUoN is a CubeSat bench-model developed in UoN in partnership with KSA (Kenya Space Agency). KSA offered a grant of KShs 1 million.
- ✓ I was the Electrical team leader.
- ✓ I worked on On-Board Computer and Communications subsystem.
- ✓ I programmed, implemented and tested the satellite communication software as well as Ground station software (Windows form Application).
- ✓ In November 2021, NaSPUoN was ranked best on merit compared to CubeSats from four other Kenyan universities that were also offered a similar grant by KSA.

Android App Development (Hearts)
April 2020 – October 2020
- ✓ During Covid lockdown, I learnt programming in Flutter for Android and iOS apps from online tutorials.
- ✓ I programmed a hearts game and released it in Google Play Store (Hearts MultiPlayer - Warmware Labs).

ACHIEVEMENTS AND CERTIFICATES

Hands-on Education Program for Technical Advancement (HEPTA SAT)
October 2019

IEEEXtreme 14.0 Programming Competition (Team: TitanZ)
October 2020   Finishing Position: 1st in Kenya, 33rd in region R8, 119th globally

University of Nairobi Certificate of Merit for Best Second Year Male Student in Electrical and Information Engineering in the 2018/2019 Academic Year
July 2021

IEEEXtreme 15.0 Programming Competition (Team: NameOfTeam)

October 2021   Finishing Position: 1st in Kenya, 32nd in region R8, 103rd globally

Huawei Certified Specialist Associate (HCSA):
- ✓ Intelligent Collaboration   (Cert No. 0301121441808458971337778)
- ✓ IP Network Sales Specialist   (Cert ID: 0301200014418084558971337428)
- ✓ Storage   (Cert No. 0301202024418084558971337777)
- ✓ Transmission & Access Sales Specialist   (Cert ID: 0301201014418084558971337776)

November 2021   Valid Through: November 22, 2023

University of Nairobi Certificate of Merit for Best Fourth Year Male Student in Electrical and Information Engineering in the 2020/2021 Academic Year

May 2022

EDUCATION

Ongoing: B. Sc. In Electrical and Electronics Engineering
University of Nairobi

2017 – Present   Year: Fifth

KCSE High School Certificate
Strathmore School

2013 – 2016   GPA: 3.97/4.0
                                                                                                  Mean Grade: A- (80)

REFEREES

Dr. Raymond Mutugi Kiruki (NaSPUoN Project Manager)   rkiruki@uonbi.ac.ke   (+254) 0113765522

Mr. Ephantus Ngugi (Gearbox Kenya Internship Supervisor)   engugi@gearbox.co.ke   (+254) 0706172999