Abdulswamad Rama

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Introduction

I am a final-year Mechatronics Engineering student with a primary interest in embedded systems, electronics, and software development. The majority of my work and project experience has involved combining software and hardware for developing mechatronic systems along with developing software for various applications.

Education

Bachelor of Engineering (Honours)(Robotics and Mechatronics)

Swinburne University of Technology Sarawak

Jan 2021 - Present | Kuching, MY

Work Experience

Alphaswift Industries *- Mechatronics Intern*

Cyberjaya, Selangor, Malaysia | Jun 2023 - Sep 2023
- Actively participated in drone maintenance tasks, including disassembling drones, troubleshooting electrical circuit issues in avionics, and assisting in drone test flights.
- Played a crucial role in battery management systems; developing a battery discharge rig and a battery metal box for enhanced safety, including PCB soldering.
- Programmed and debugged microcontrollers in C++ for automating the Battery Discharge Rig.

Chumbaka *- Student Mentor*

Remote | Aug 2022 – September 2022
- Acted as a Mentor to Highschool students in a Robotics competition.
- Guided students through Arduino code implementation and writing the reports.

Ganda Farm *- Farm Supervisor*

Malindi, Kenya | Apr 2019 – Sep 2019
- Assisted all staff and ensured they adhere to safety regulations.
- Enhanced skills in Customer Service, teamwork and communication skills.
- Regularly used product knowledge to meet customer's needs.

Projects

Digital Calculator *- Embedded C, Assembly, Electronics*

Swinburne University of Technology | Nov 2022
- Designed and implemented a fully functional digital calculator using a microcontroller and electronic circuit design.
- Integrated Nokia 6100 LCD Screen for display and implemented a responsive keypad interface for user input.
- Utilized sensors and buzzers to enhance realness and feedback to user.

Smart-Home Fan *- Computer Vision, Circuit Design, Python*

Swinburne University of Technology | Sep 2023
- Developed a camera-based tracking system for an Automated Fan that adjusts its orientation and speed based on human presence.
- Applied Python for human detection algorithms and C++ programming for motor control.

CyberMask Project *- Solidworks, FEA Analysis*

Swinburne University of Technology | Jun 2021
- Designed a futuristic strapless mask as part of a group project using Solidworks.
- Created multiple part files using Solidworks, assembled them.
- Performed Static study, Design Study and Topology Study to the design on Solidworks Simulation.

Citizenship

Kenyan

Skills

Embedded Systems
C++ (Arduino, Qt Framework)
C, Assembly
ESP32, ARM, UART, I2C
Linux (Toolchain, Bootloader, Kernel)
Version Control, Git, Docker
Python, MATLAB

Coursework
Robot Modelling
Machine Design
Control Theory
Cloud Computing (AWS)
Web Frontend (HTML, CSS, JavaScript)
Objected Oriented Programming

Manufacturing
Circuit Design & Prototyping
Wiring (soldering, crimping .etc)
Power and Hand Tools
CAD (Solidworks, Fusion360)

Languages
Swahili (Native)
English (Proficient)

Non-required Coursework

Undergraduate
Control & Perception, SLAM
Robotics (ROS2, RViZ, OpenCV)
Simulation (Gazebo, Blender3D)
PCB (KiCAD, NI MultiSim)

References

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