EVANS HONU

Gmail: evanshonu@gmail.com—LinkedIn: evans-honu-04b0a716b—Github: Evanshonu

RESEARCH STATEMENT

I am a roboticist, specializing in robot hardware design and the firmware writing to control all kinds of robots. I am interested in understanding robot intelligence and its vision, excited to develop custom robot control hardware and techniques to power the next generation of dynamic and useful robots at your noble institution, and look forward to grounding my research in collaboration and innovation at the intersection of robotics and neighboring fields.

EDUCATION

Kwame Nkrumah University of Science and Technology, BSc. Physics 09/18-11/21

- **Notable classes: Electricity&Magnetism, Electromagnetic Theory, Analog Electronics, Digital Electronics, Renewable Energies and Sources.**
- **Teaching Assistant for Electricity&Magnetism, Circuit Theory.**

Akatsi Senior High School 07/2014 - 06/2017

- **Won 1st place in a Regional Science and Math Quiz- 02/2017**
- **Won 2nd place at the National Science Quiz Contest.**

PRESENTATIONS

Astrophysics Club KNUST (Physics Department)

- **Presented on BLACK holes information paradox and the singularity.**

HARDWARE AND SOFTWARE PROJECTS

FAMA Robot Controller — Github: FAMA-controller — Kicad, C++/C

- **Designed an engine from scratch for an autonomous AI-Powered solar robot for seed planting and fertilizer application without any human intervention (link).**
- **Wrote the firmware for the robot engine using C++ and C.**

OXYGEN Analyzer For Nitrogen Plant —website:Oxygen Analyzer — Kicad, C++/C

- **Designed an oxygen analyzer for a Nitrogen Plant and Programmed it using C++/C.**
- **I developed the device for Dr. Eric Clement Kotei Addison.(here)**
- **The device measures oxygen concentration from 21- 900ppm as compared to the commercially available ones. (link)**

SOLENOID Gas Valve Control Board — Website:Solenoid Gas Valve — Kicad, C++/C

- **Designed a printed Circuit board for opening and closing of a solenoid gas valve.**
- **Operate by translating electrical signal received from a microcontroller to open or close a valve which in turns controls the flow of gas(link).**

STEM Robot board — website:STEM Robot — Kicad, C++, C, JavaScript

- **Developed a control board for a STEM product for kids.**
- **Capable of obstacle avoidance and Line following.**
- **Has 10 RGB leds for color detection.**
- **STEM website for Corebot.(link), Note: web-app is still under construction.**

· The corebot controller board can be found (here).

INTRAVENOUS Infusion Pump board — website:Infusion Pump — Kicad, C++,C

· Designed an infusion pump circuit board capable of monitoring delivery of fluids
· The system is able to regulate the flow rate and account for occlusion in the tube.
· Has a buzzer that alerts nurses incase the system fails to regulates the flow.

SEISMIC Vibration Detector — Kicad

· Developed a device for a geophysics lecturer ((Van-Dycke Sarpong Asare)) that could monitor vibrations from 3-axis coming from the earth.
· The device picks vibrations and send it to a master device which stores the data on an SD card for further investigation.
· The data recieved from the slave device to the master was coming from the board as we rotate the device.

ONGOING PROJECT

· Currently designing an open Source complete flight control system board from scratch.
· Designing for fixed-wing aircraft and autonomous drones.
· Perform task such as payload delivery, target tracking etc.

WORK EXPERIENCE

Teaching and Research Assistant @ KNUST 10/21 - 08/22

· Assisting in tutoring students and in research.

Traffic lights design and maintance @ KNUST 10/21 - 08/22

· Responsible for maintance and design of traffic lights on Kwame Nkrumah University of Science and Technology, Kumasi campus.

Lead Robotics Hardware Engineer @ 3Farmate Robotics link 02/22 - Present

· Design custom circuit boards for agricultural Robots.

College of Engineering (Innovation Center Hardware design consultant) 10/21-08/22

· Designed electronics circuits, create schematics, board layout and Simulations for Engineering students.
· Taught about 15 students how to design professional circuit board using industry tools like Kicad and Altium designer. KNUST-CoE Innovation Centre

Hardware design Intern erictronics ghana 08/2018

· Developed a customized home automation system control board.
· Won best hardware design student as intern in erictronics.
· won best performing electronics student in a summer skill program . 06/2018

TECHNICAL SKILLS

Languages	C++/C, Python
CAD Tools	Kicad, Altium designer, fusion 360, Ltspice, NI Multisim
Frameworks	ROS(Robot Operating System)
Developer Tools	Git, Docker