

JOEL OSEI-ASAMOAH

joeloseifiifi@gmail.com / LinkedIn: [Joel Osei-Asamoah](#) / GitHub: [JoelOA](#)

EDUCATION

Ashesi University
BSc. Computer Engineering
Cumulative GPA: 3.72 /4.00

Berekuso, Eastern Region
Date of Graduation: Aug 2024

ACHIEVEMENTS/AWARDS

Magna Cum Laude Honors, Ashesi University **2024**
Deans List, Ashesi University **2021 - 2024**
Ashesi Health Initiative Participant, Africa Higher Education Health Collaborative **2024 - 2025**

WORK EXPERIENCE

Department of Engineering – Ashesi University, Berekuso **Sept 2024 – present**
Teaching Assistant

- Co-designed syllabi for Machine Learning, Introduction to AI & Robotics, and Introduction to Engineering, strengthening student understanding of core fundamentals.
- Held one-on-one tutoring sessions that increased struggling students' academic performance by 10% and saw an improvement in their understanding.
- Prepared and graded coursework, to assess students' performances, identify common difficulties and adapting teaching strategies accordingly.

TRACE **Feb 2024 – present**

Co-Founder

- Developed a fully mechanical math graphing device to assist blind and visually impaired students in plotting bar graphs, significantly improving their ability to engage with mathematical concepts.
- Collaborated with schools in Cape Coast, Accra, and Wa to test and receive feedback on the device, to make it an effective tool for visually impaired students.
- Developed and reviewed team budgets which secured approval from the Ashesi Health Initiative to fund the project, enabling further development and testing of the device.

Ashesi Innovation Experience (AIX) – Ashesi University, Berekuso **June 2025 – Aug 2025**
Program Assistant (Robotics)

- Trained Robotics coaches on the VEX V5 kit through one-on-one sessions and lectures, enhancing their technical expertise.
- Designed and implemented the Escape Room Challenge, creating the mat layout and programming communication between robots, a central VEX brain and a custom website.
- Assisted the faculty lead in teaching robotics by preparing learning materials, answering student questions, and guiding participants through hands-on activities.

PROJECTS AND RESEARCH

Recognition of Walking Terrain Using Embedded ML **Jan 2024 – Present**
Developer

- Built a machine learning model to classify walking terrain, which can improve the accuracy of calorie burn estimation, providing users with more reliable fitness data.
- Deployed the ML model on an Arduino Nano 33 BLE to reduce communication latency, delivering quicker and more responsive fitness data to users.
- Prototyped a low-fidelity fitness band housing the ML model, enabling user testing and feedback on functionality and usability.

PUBLICATIONS AND PRESENTATIONS

J. Osei-Asamoah and **N. Amanquah**, "Recognition of Walking Terrain Using Machine Learning," 2024 *IEEE 9th International Conference on Adaptive Science and Technology (ICAST)*, Accra, Ghana, 2024, pp. 1-6, doi: 10.1109/ICAST61769.2024.10856487.

CO-CURRICULAR ACTIVITIES

Ashesi University, Automations, Control and Robotics Lab **Jan 2023 – May 2025**
Member

- Contributed to the perception and controls sub-teams for the F1Tenth Autonomous Racing Competition; the team placed 3rd in qualifying and 7th overall.

Practical Education Network (PEN) **Feb 2024 – Jan 2025**
Content Creator

- Designed practical learning activities for high school students based on the Liberia and Ghana curricula, to enhance their understanding of key concepts.

SKILLS

- **Programming Languages:** Python, C/C++, Java
- **Operating Systems & Tools:** Ubuntu, Git, Docker
- **Robotics & Simulations:** ROS 2, Gazebo
- **Hardware Platforms:** Arduino, Raspberry Pi, ESP32
- **Design & Modelling:** CAD, MATLAB