Muki Kiboigo

US Citizen/Eligible to Work
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Education

University of Washington Seattle, WA
Bachelor of Science in Computer Engineering *Sep. 2021 - June 2024*

Experience

Undergraduate Research Assistant Sep. 2023 – June 2024
University of Washington *Seattle, WA*

- Led a development team working on the avionics system for Husky-Sat 2, a student-built satellite set to enter low Earth orbit in 2025.
- Engineered various changes to our open-source star tracker (LOST) in C++, assisting in cross-compilation and support for both floats and doubles.
- Developed a predicate-based cooperative RTOS with Rust (HYDRA), ensuring that various critical tasks, such as communication with various subsystems, could be executed within constraints.
- Utilized embedded Rust for the avionics firmware, emphasizing compositional safety when interacting with various embedded interfaces, such as I2C, SPI, CAN and UART on an ARM (Cortex-M) based microcontroller.
- Engineered, simulated, and verified a schematic design for manufacture into a Printed Circuit Board (PCB) utilizing SPICE for simulation and KiCAD for schematic design and PCB layout.

Software Engineering Intern June 2022 – Sep. 2022
Amazon *Seattle, WA*

- Played a key role in enhancing the Amazon Approvals onboarding process through the implementation of automated ticket handling, robust form validation, and the introduction of automated AWS resource allocation (including S3, IAM, and SNS).
- Utilized Java with AWS Lambda for cost-effective and reliable operation. Established extensive logging through AWS Cloudwatch, ensuring proper debugging and tracing of any runtime errors.
- Achieved significant time savings, reducing the manual workload by over 80 engineer hours annually while ensuring that all provisioned resources returned to customers was correct.

Software Engineering Intern July 2021 – Oct. 2021
Amazon *Seattle, WA*

- Designed, implemented and documented an extension to enhance the notification capabilities of Amazon Approvals, seamlessly enabling interactions through Slack to enhance communication and notification functionality.
- Facilitated streamlined communication and collaboration by responding to customer requests, enabling engineers and stakeholders to interact seamlessly with the service through a platform of their preference.

Projects

kiboigo.com | *Rust, HTMX, Docker, PostgreSQL* May 2024 – Present

- Developed a full-stack webstore for selling various prototype and development boards to hobbyists and enthusiasts. Leveraging Rust's compositional safety on the backend with HTMX's simplicity on the front.
- Utilizing PostgreSQL as the database managing all of the items and orders on the store due to the relational nature of the webstore.
- Orchestrating deployments with Github Actions and Docker Compose, allowing for a simple and idempotent deployment on a managed VPS.