LAWRENCE ONYANGO

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EDUCATION

Carnegie Mellon University **Pittsburgh, PA**
Bachelor of Science in Mechanical Engineering; Additional Major in Robotics *Class of 2024*
GPA: 3.8 / 4.00; CIT Dean List; CIT College Honors

SKILLS

Programming Languages: C, C++, C#, Python, Kotlin, MATLAB, Julia, TypeScript, JavaScript, Bash, HTML, and CSS
Technologies: Kubernetes, Next JS, .Net Framework, React, ROS, Spring, AWS, Splunk, Terraform, Docker, SQL, and Git

PROFESSIONAL EXPERIENCE

Microsoft (Azure IoT Operations) **Redmond, WA**
Software Engineer (Full Stack) *July 2024 - Present*

- Spearheading Offline Testing for Azure IoT Operations, collaborating with component teams to create and implement an offline testing plan. Leveraging Azure, Kubernetes, and C# to ensure rigorous metric validation and alignment with performance goals, contributing to the successful launch of the platform.
- Designing and developing an in-house web application for debugging Azure IoT Operations with React, TypeScript, Next.js, and .NET Framework. Leading feature proposals and implementation, reducing debugging time by up to 80% by centralizing and automating information display, eliminating manual data retrieval, and streamlining the troubleshooting process.

Atlassian **New York, NY**
Software Engineering Intern (Backend) *May 2023 – Aug 2023*

- Consolidated and deployed two critical tier microservices utilizing Spring, Kotlin, Coroutines streamlining sequence number generation and eliminating redundant code across multiple services. By eliminating duplicated logic, this unified approach enhanced system efficiency and maintainability while maintaining similar response times.
- Designed customized dashboards using Splunk and Terraform, empowering individual service teams with dedicated monitoring tools for service performance.
- Utilized Docker for containerization, DynamoDB for database management, and AWS Kubernetes for orchestrating microservices, ensuring efficient deployment, scaling, and management of the system.

Google (Cloud TI Platforms) **Sunnyvale, CA**
Software Engineering Intern (SWE) *May 2022 – Aug 2022*

- Developed a diagnostic tool capable of remotely accessing each SSD via SSH, automatically extracting core logs and conducting detailed analysis. Analysis was performed at the individual core level within the SSDs, contributing to the identification and isolation of malfunctioning cores.
- Achieved a noteworthy 30% reduction in debugging time for SSD developers, streamlining issue resolution processes and notably enhancing the overall debugging experience.

PROJECTS

Autonomous Garden Robot *Fall 2023 – Spring 2024*

- Spearheaded the development of an autonomous garden maintenance robot, overseeing the design, build, integration, and testing of all subsystems for precise plant care around a garden environment, demonstrating expertise in project management and systems design.
- Designed and implemented the navigation and plant monitoring subsystems, leveraging Visual/Lidar SLAM for navigation and stereo-cameras for plant monitoring using the ROS framework.
- Utilized AWS EC2 and Django to create a web server for uploading and retrieving plant data, providing operators with real-time information about their gardens.

Safeguard Against Pests Robot *Fall 2023*

- Applied systems design principles to direct the development of an autonomous sentry robot to identify and eliminate common pests within a three-month timeframe.
- Spearheaded the design, creation, and integration of the software-stack incorporating state machines and a YOLO-based computer vision system.
- Optimized the software stack, including the computer vision system, to achieve real-time operation with a response time of less than 0.5 seconds.
- Implemented safety mechanisms to prevent the unintended release of pesticides, thereby enhancing system safety.