LAWRENCE ONYANGO

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EDUCATION

Carnegie Mellon University **Pittsburgh, PA**

Bachelors in Mechanical Engineering; Additional Major in Robotics *Class of 2024*

- GPA: 3.77 / 4.00; CIT Dean List
- **Relevant Coursework:** Principles of Imperative Computation, Computer Vision, Robot Kinematics and Dynamics*, Robotic Systems Engineering*, Electromechanical Systems Design*, Dynamic Systems and Controls, Introduction to Robotics, Dynamics, Engineering Design, Heat Transfer, Stress Analysis, Fluid Mechanics, and Thermodynamics

***** *Fall 2023*

SKILLS

Programming Languages: Python; Kotlin; MATLAB; C; C++; Bash; JavaScript; HTML; CSS
Technologies: NumPy; OpenCV; Beautiful Soup; Pandas; SQL; Spring MVC;
Robotics: Computer Vision; Dijkstra's/A* (Motion Planning); Discrete Bayes Filter (Localization); Odometry; Kinematics/Inverse Kinematics; PID
Mechanical: Design; Solidworks; Classical/Modern Control Systems Analysis**;** Mills; Lathes; Drill Press

PROFESSIONAL EXPERIENCE

Atlassian **New York City, NY**

Software Engineering Intern (Backend) *May 2023 – Aug 2023*

- Developed and deployed two critical tier microservices using Spring and Kotlin for a new centralized sequence number generation approach for use with other microservices
- Integrated a DynamoDB table to store essential resources for sequence generation, in order to facilitate seamless support for other services
- Implemented monitoring systems and metrics to ensure optimal performance and validating the approach.

Google (Cloud TI Platforms) **Sunnyvale, CA**

Software Engineering Intern (SWE) *May 2022 – Aug 2022*

- Designed and created a tool to help in diagnosing Google Cloud SSDs by collecting relevant logging information and performing relevant data analysis.
- Data analysis included parsing information and running GDB on failed firmware.
- Reduced overall debugging time by 30% for Google Cloud gSSD developers.

Microsystems & Mechanobiology Lab (MMBL) **Pittsburgh, PA**

Research Intern *Jun 2021 – Sept 2021*

- Mapped the analytical design space for DNA origami-based forceps sensors that use Forster Resonance Energy Transfer (FRET) to measure distances beyond the Forster distance.
- Generated over 1,000,000+ valid data for use in designing custom DNA Origami-based forceps sensors.
- Created a program that would take user specifications for custom forceps sensors and then output a corresponding forceps sensor and a visualization based off the generated data points.

PROJECTS

Urban Search and Rescue Robot *Spring 2022*

- Created and programmed a Lego robot that used OpenCV and MATLAB to navigate a mock-disaster environment with stairs, ramps, obstacles, survivors to be rescued, and fiducial markers that needed to be decoded.
- Achieved one of the fastest completion times for the mock-disaster environment with all survivors successfully rescued.

Quiz Game *Spring 2021*

- Created a quiz game that would web-scrape Wikipedia articles using BeautifulSoup in order to create quiz-based questions
- Designed a custom-made mastery system based off the Leitner System and SuperMemo algorithms to track player progress.

LEADERSHIP

Student Senate **Pittsburgh, PA**

Senator for The College of Engineering in Campus Life and Advocacy *Sep 2021 - Present*

- Planned and ran multiple campus wide events to improve student engagement on campus such as tailgating events for football games, Homecoming dance etc.
- Working towards continuing diversity dialogues on campus, workshops on various DEI topics forstudents, and evaluating mental health resources on campus.