# Ewurama Karikari

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## EDUCATION

**Stanford University** Expected: March 2021
Stanford, CA
MS Mechanical Engineering
Concentration: Robotics and Mechatronics

**University of Washington** June 2019
Seattle, WA
BS Mechanical Engineering
Concentration: Mechatronics
*GEM Full Fellow*

## INDUSTRY EXPERIENCE

**Hardware Development Engineering Intern** June 2019 – Sept. 2020
Amazon, Seattle, WA

*HDE Intern: June 2020 – Sept. 2020*

- Constructed test cases for ten performance requirements for a product accessory
- Executed the test cases to validate the technical specifications against the performance requirements
- Performed a trades study to recommend new materials to generate a 20% cost reduction
- Collaborated in a cross-functional environment to get product design and industrial design buy-in
- Communicated with manufacturers to create, customize, and reduce the cost of materials

*HDE Intern: June 2019 – Aug. 2019*

- Designed a test fixture for preliminary reliability testing using Creo Parametric 3D Modeling Software and prototyped with a Form 3 3D printer
- Tested the actuation of a switch assembly through measuring actuation force and displacement using an Instron Material Testing Machine
- Analyzed actuation force and displacement data using JMP data analysis software and compared testing results to the manufacturer's specifications

## RELEVANT PROJECTS

**Smart Product Design and Applications** Sept 2019 – Mar. 2020
Stanford University, Stanford, CA

*Autonomous Mobile Robot*

- Created circuitry in Altium Designer and built circuitry for development of an autonomous robot tasked with object detection, pose estimation, and grasping
- Developed software services in C to control robot motion for object and color detection states
- Collaborated in a team environment for successful integration of mechanical and electrical components with software services

*Electromechanical Widget*

- Created in Altium Designer and built circuitry for creating a widget with user interaction
- Developed software services in C for controlling of the high-level activity of the widget

**Variable Impedance Robotic Gripper** Jan. 2019 – June 2019
University of Washington, Seattle, WA

- Researched, designed, prototyped, and tested/evaluated a robotic gripper responsive to applied force
- Collaborated in a team of four mechanical engineering students to produce a prototype in five months

## RELEVANT SKILLS & COURSES

**Related Skills:** SolidWorks (Intermediate), PTC Creo Parametric (Intermediate), C Programming Language (Intermediate), MATLAB (Intermediate), C++ (Beginner), Python (Beginner), ROS (Beginner)

**Related Courses:** Advanced Robotic Manipulation, Experimental Robotics, Design and Control of Haptic Systems, Smart Product Design Applications, Smart Product Design Fundamentals, and Principles of Robot Autonomy