

Sochima Ezema

[website](#)
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EDUCATION

Stanford University, CA — *BS in Computer Science*

SEPTEMBER 2019 - PRESENT

RELEVANT COURSEWORK

- Web Programming Fundamentals
- Computer Organizations and Systems
- Programming Abstractions in C++
- Programming Methodology
- Soft Robots for Humanity
- Calculus

University of Nigeria Secondary School, Nigeria — *High School Diploma*

SEPTEMBER 2011 - JULY 2017

EXPERIENCE

Undergraduate Research Assistant — *Interactive Perception and Robot Learning Lab, Stanford*

JUNE 2020 - AUGUST 2020

- Worked to adapt an existing haptic texture rendering algorithm that currently works on spherical shapes on a screen (<http://haptics.seas.upenn.edu/index.php/Research/ThePennHapticTextureToolkit>) to arbitrary shapes and environments in Unity (a cross-platform game engine) using a Virtual Reality headset.
- I explored the impact on visual cues on the perceived realism of different haptic textures to find out how much the visual texture affects the perception of the haptic texture.
- I also tried merging different haptic textures and exploring how the perception of a texture changes as the mixing ratio changes.
- I created the Stanford Robotics website

Undergraduate Research Assistant — *Charm Lab, Mechanical Engineering Research Lab, Stanford*

JANUARY 2020 - MARCH 2020

- Built and implemented vine robots to explore the habitat of endangered California Tiger Salamander
- Programmed a hapkit board and developed a way to easily launch robots of various diameter from a single base
- Tested different robot and base diameter and found the best diameter for maximum efficiency
- Discovered a way to attach cameras to the robot and proved that the Salamander was not extinct

PROJECTS

Pneumatic Leg brace

- Stiffens with pressure when an obstacle is detected by an ultrasonic sensor, run by a hapkit board, to inform the wearer to change the direction of movement

Soft Sensors

- Used silicone and conductive fabric to make a stretchable capacitor and measure the changing capacitance of the sensor as it is stretched using a hapkit board

Elastomeric Soft Gripper

- Used silicone in making a pneumatic gripper

Pneumatic Artificial Muscles

- Created an actuator that uses air pressure to imitate the function of biological muscles

Particle Jamming Gripper

- Created a gripper that uses adaptability and stiffness change to grip objects

LEADERSHIP

- **Secretary** to the 22nd ASSU Undergraduate Senate, 2020-2021
- **Co-President** of Stanford Nigerian Students Association, 2020-2021
- **Deputy Head Girl, Head Girl** of University of Nigeria Secondary School, 2015-2017

LANGUAGES

- Python
- C++
- C#
- JavaScript
- HTML
- CSS

SKILLS

- Unity Game Engine
- Drupal
- Soft Robotics
- Slack bots
- Ms Office (Word, Excel, Access and PowerPoint)
- Video production and Broadcasting
- Fashion Styling
- Leadership and Project Management

AWARDS AND HONOR

- Bassers Fellow, Stanford
- Salutatorian, High School
- Most Prospective Female Engineering Student, High School
- EducationUSA Opportunity Funds Scholar, High School

PUBLISHED WRITINGS

- Leadership By Example: Walk Your Talk
- Miracle Centers - Are They Really The Elevators to Success?

EXTRACURRICULAR

ACTIVITIES

MINT Magazine, *Fashion Stylist Intern*

OCTOBER 2019 - PRESENT

Styled four models for photoshoots depicting:

- The American Dream
- Self-care