Stephanie Akakabota

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EDUCATION

University of California, Berkeley, College of Engineering Berkeley, CA
B.S. in Mechanical Engineering (GPA: 3.59/4.00) Expected August 2025

SKILLS & TECHNICAL PROFICIENCIES

- **Programming & Software:** Python, MATLAB, Arduino, MicroPython, C/C++, ROS, OpenCV
- **Robotics & Mechatronics:** Moteus motors, PID Control, DC/Stepper/Servo motor control, Inverse Kinematics, Path Planning, PCB Design, Circuit Debugging
- **CAD & Fabrication:** SolidWorks, LabVIEW, Machine Shop (lathe, mill, drill press, CNC), 3D printing, Soldering
- **Instrumentation & Measurement:** Oscilloscopes, Signal Generators, Data Acquisition Systems

EXPERIENCE

Research Assistant Berkeley, CA
Embodied Dexterity Group May 2024 – Present

- Engineered and executed bio-inspired robotic systems using Moteus motors and LabVIEW software.
- Engineered precise tail movements for a biomimetic fish robot, replicating natural locomotion, including C-start maneuvers.
- Created and optimized Arduino-based control systems for robotic actuation.
- Partnered on hardware integration to enhance mechanical performance and dynamic response.

PROJECTS

Dish-n-Dash: The Ultimate Robotic Dish Clearer Berkeley, CA
Intro to Robotics Final Project Fall 2024

- Engineered and implemented an automated dish-sorting robot for school cafeterias using inverse kinematics and computer vision (DETR model).
- Developed motion control systems for precise robotic arm grasping and object sorting, achieving a 85% classification accuracy.

Smart Cheese Grater Project Berkeley, CA
Mechatronics Course Project Spring 2025 (In Progress)

- Developing an automated cheese grater featuring a DC motor-driven transmission system for optimized torque control.
- Implementing a state machine architecture using ESP32 for multiple grating modes, enhancing user control and efficiency.

IoT Cat Laser Toy Berkeley, CA
IoT Electronics Course Project Spring 2025 (In Progress)

- Designing an IoT-enabled interactive pet toy with 360-degree stepper motor rotation and servo-controlled laser movement.
- Creating an ESP32-based wireless system for remote control, implementing adaptive play algorithms and real-time activity tracking via a mobile app.

ACTIVITIES

Cal Women's Swim Team (NCAA Division I) Berkeley, CA
Team Leader August 2021 – Present

- Balanced a 20+ hour weekly training schedule with rigorous academics.
- 2024 Pac-12 Champion and NCAA Qualifier.

HONORS & INTERESTS

- **Honors:** National Merit Finalist, Pac-12 Honor Roll, 2020 Int'l Piano Champion, 2021 Olympic Trials Qualifier

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- **Interests:** Robotics, Prosthetics, Swimming, Piano, Hiking, Crochet