Stephanie Akakabota

(407) 456-2907 • sakakabota@gmail.com •LinkedIn

Mechanical engineering graduate student specializing in medical robotics, assistive technology, and human-centered design. Developed autonomous systems combining computer vision, control algorithms, and embedded programming. Experienced in research, teaching, and cross-functional project management for assistive medical devices.

EXPERIENCE

Graduate Student Instructor, ME 103: Experimentation and Measurements Berkeley, CA
UC Berkeley Fall 2025 – Present

- Provided technical mentorship on experimental design, measurement techniques, and data analysis for 20+ open-ended projects involving strain gauges, accelerometers, and thermal sensors.
- Led undergraduate laboratory and discussion sections for 180+ undergraduates.
- Guided students in experimental design, measurement techniques, sensor selection, uncertainty analysis, and technical writing.

Lead Mechanical Engineer Bay Area, CA
Less Fluorescent Fall 2025 – Present

- Extracted system specifications from design goals and relevant research sources.
- Created design calculations for thermal printing heating element operation and thermal coatings
- CAD design of Electronic heating circuit and ran operating point simulations
- Planned hardware test procedure for initial thermal printing prototype.
- Sourced mechanical/embedded components & supply requirements for working test build

Teaching Assistant Berkeley, CA
Summer Discovery April 2025 – June 2025

- Developed 7 instructional modules and managed Canvas course content, ensuring clear agendas, consistent formatting, and effective student engagement throughout hands-on engineering projects.
- Supported 50+ students in assembling and programming autonomous XRP robots, teaching Python fundamentals.

Research Assistant Berkeley, CA
Embodied Dexterity Group May 2024 – Spring 2025.

- 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, collaborating with PhD students on locomotion algorithms and sensor integration.

EDUCATION

University of California, Berkeley, College of Engineering Berkeley, CA
M.S. in Mechanical Engineering Expected Spring 2026
B.S. in Mechanical Engineering (GPA: 3.63/4.00) August 2025

SKILLS & TECHNICAL PROFICIENCIES

- **Programming & Software:** GitHub, Signal Processing, Computer Vision (OpenCV), Python, MATLAB, Arduino, MicroPython, C/C++, ROS
- **Robotics:** Inverse Kinematics, Path Planning, Control Systems, Sensor Integration, Motor Control, State Machine Design
- **CAD & Fabrication:** SolidWorks, LabVIEW, Machine Shop (lathe, mill, drill press, CNC), 3D printing, Soldering
- **Instrumentation & Measurement:** Oscilloscopes, Signal Generators, Data Acquisition Systems, LabView

PROJECTS

SproutUp: Assistive Standing Device Berkeley, CA
Graduate Design Project Fall 2025

- Engineered motor actuation system providing 60% assistance (70Nm torque) and 4-second rise time through DC

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motor selection, gear ratio optimization, and FEA structural analysis.
- Led mechanical design and supplier sourcing for a motorized assistive device helping individuals with mobility impairments stand independently, managing $150 prototype budget and meeting 3kg weight constraint.
- Integrated embedded control system using ESP32, pressure sensors, IMU, and potentiometer for state-based operation and real-time posture monitoring.

Smart Cheese Grater Project Berkeley, CA

Undergraduate Capstone Project Spring 2025

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

Dish-n-Dash: The Ultimate Robotic Dish Clearer Berkeley, CA

Intro to Robotics Final Project Fall 2024

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

ACTIVITIES & ACHIEVEMENTS

Cal Women's Swim Team (NCAA Division I) Berkeley, CA

Team Leader August 2021 – Present

- 2021 Olympic Trials Qualifier
- Balanced a 20+ hour weekly training schedule with rigorous academics.
- 2024 Pac-12 Champion and NCAA Qualifier.

Classical Pianist

- 2019 Carnegie Hall Piano Champion
- 2020 Carnegie Hall Piano Finalist

HONORS & INTERESTS

- **Honors:** National Merit Finalist, Pac-12 Honor Roll
- **Interests:** Rock Climbing, Swimming, Piano, Hiking, Crochet