

Mumbi Whidby

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Education

University of California, Los Angeles

Sept. 2022–Present

Ph.D. in Mechanical Engineering (Design, Robotics and Manufacturing)

M.S. in Mechanical Engineering, March 2024

Spelman College, Atlanta, GA

May 2022

B.S. in Computer Science, Magna Cum Laude

Awards and Honors

Cota-Robles Fellowship – Full Ph.D. fellowship, UCLA

Boeing Scholar – Engineering leadership and academic excellence

Upsilon Pi Epsilon – Computing honor society

Technical Skills

Programming: Python, C++, MATLAB, PHP, Java, Scheme, JavaScript

Tools/Frameworks: ROS1, ROS2, SolidWorks, Onshape, Arduino, Pepakura, Git

Additional: Sensor integration, data acquisition, machine learning basics, teleoperation systems, microfluidics fabrication

Experience

University of California, Los Angeles Biomechatronics Lab

Sept. 2022–Present

Research Assistant — Advisor: Dr. Veronica Santos

- Lead development of tactile sensing systems for robotic manipulation and teleoperation.
- Analyze multi-modal sensor data to improve haptic feedback and material classification.
- Mentor undergraduate researchers in sensor integration and experimental methods.

Human Fusions Institute, Case Western Reserve

Oct. 2023–June 2024

Research Assistant — Office of Naval Research Project

- Developed real-time hand motion tracking and immersive teleoperation systems.
- Conducted user studies integrating visual and haptic feedback in bimanual teleoperation.

IC CAE Project, Virginia Tech

Aug–Dec 2021

Research Assistant

- Designed adaptive jamming strategies for wireless signals using SDR platforms.
- Investigated signal interception and mitigation in dynamic RF environments.

NASA L'SPACE Mission Concept Academy

Jan–May 2020

Researcher

- Conducted systems engineering analysis for NASA Lucy mission design review.
- Assessed spacecraft architecture feasibility under physical, risk, and budget constraints.

U.S. Army Drone Design Competition

Apr 2019

Research Assistant

- Engineered biologically-inspired drone chassis; integrated lightweight sensors and controls.
- Team placed 2nd in design category and 4th nationally in overall competition.

Honeywell Enterprise

May–Aug 2021

Intern

- Designed cloud-based robotics integration solutions (AWS) for logistics and warehouse automation.
- Performed cost-benefit analysis of robotics platforms for optimized fulfillment operations.

Publications (selected)

- Whidby, M., Kang, S.-M., Harber, E., et al. “*Full Title of Second Paper.*” Under review at IEEE Robotics and Automation Letters.
- Harber, E., Johnson, C.P., Liebman, A., et al. “*OptiStrain: A Vision- and Microfluidics-based Tactile Sensor.*” In preparation.