

Yuting(Teaya) Yang

Berkeley, CA | 607-227-1016 | teaya.yang@berkeley.edu

EDUCATION

University of California, Berkeley

Aug 2022 - Present

Ph.D. Student in Mechanical Engineering

GPA 3.91/4.00

Cornell University

Aug 2018 - May 2022

B.S. in Mechanical Engineering, Minor in Physics

GPA 4.02/4.30 • Summa Cum Laude

AWARDS

Summer 2024 Fellowship, Department of Mechanical Engineering, UC Berkeley

2022-2023 Departmental Doctoral Fellowship, Department of Mechanical Engineering, UC Berkeley

Summer 2021 Research Award, Cornell Engineering Learning Initiatives

PUBLICATIONS

Journal

Teaya Yang, David Hathcock, Yuchao Chen, Paul L. McEuen, James P. Sethna, Itai Cohen, Itay Griniasty, "Bifurcation Instructed Design of Multistate Machines", *Proceedings of the National Academy of Sciences*, 2023.

Conference Talks

Teaya Yang, "Path planning for efficient fruit counting using unmanned aerial vehicles", *FIRA USA*, 2023.

Teaya Yang, "Using Bifurcation theory to instruct design of Magneto-Elastic Machines", *APS March Meeting*, 2021.

Manuscript

Jiaming Zha, Teaya Yang, Mark W. Mueller, "Agri-fly: Simulator for Uncrewed Aerial Vehicle Flight in Agricultural Environments", *in preparation*.

RESEARCH EXPERIENCE

High Performance Robotics Lab (PI: Mark W. Mueller) Graduate Student Researcher

Aug 2022 - Present

- Implemented an autonomous fruit counting algorithm using fruit detection, tracking, and structure from motion
- Developed a simulator with dynamic tree architecture and occlusion modeling for fruit visibility
- Enhanced the synthetic image generation algorithm in a Unity-based UAV simulator for agricultural environment
- Conducted outdoor flight experiments using a perception-aware path planner and visual inertial odometry
- Performed flight tests on quadcopters with ROS and OptiTrack motion capture systems

Itai Cohen Group (PI: Itai Cohen) Undergraduate Research Assistant

Jan 2020 - May 2022

- Designed and conducted experiments demonstrating the behaviors of multi-stable magnetic hinge systems
- Designed a 3-state multi-stable magnetic hinge system using a gradient continuation search algorithm
- Fabricated pneumatic shape-morphing elastomers (baromorphs) through 3D printing and silicone molding
- Developed an experiment to observe the dynamical response of double-layer baromorphs

TEACHING EXPERIENCE

University of California, Berkeley Graduate Student Instructor

- ME231b Experiential Advanced Control Design II (Spring 2024)

Cornell University Undergraduate Teaching Assistant

- PHYS1112 Physics I: Mechanics and Heat (Fall 2019, Fall 2021, Spring 2022)
- PHYS2213 Physics II: Electromagnetism (Spring 2020)
- PHYS2214 Physics III: Oscillations, Waves, and Quantum Physics (Fall 2020, Spring 2021)
- ME2030 Dynamics (Spring 2021, Spring 2022)
- CS1112 Introduction to MATLAB (Fall 2019)

SKILLS

Research Expertise: simulation and control of aerial vehicles, mechatronics design, state estimation, dynamics modelling

Programming Languages: C/C++, Python, MATLAB, C#, Linux Shell, Java

Manufacturing: FDM and SLA 3D printing, lathe and mill machining, laser cutting, silicone rubber molding, soldering

Software and Tools: ROS, Git, LaTeX, SolidWorks, Autodesk Inventor, Unity, ANSYS, Arduino IDE, Blender

Languages: Mandarin Chinese (Native), English (Fluent), French (Upper-intermediate fluency, DELF B2)