

Daniel Bostwick

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EDUCATION

University of California, Berkeley

PhD. Electrical Engineering and Computer Science

September 2025 - May 2030

Berkeley, California

University of California, Berkeley

Master of Information and Data Science

August 2023 - December 2024

Berkeley, California

University of California, Berkeley

B.A. Data Science

January 2021 - May 2023

Berkeley, California

- **Emphasis:** Robotics / EECS / Mechanical Engineering

EXPERIENCE

Berkeley Artificial Intelligence Research Lab (BAIR)

September 2023 - Present

Graduate Student Researcher

University of California, Berkeley

- Designed metric framework for evaluating Deep Reinforcement Learning policies for pursuit-evasion games
- Built drone simulators in Unreal Engine to test and evaluate pursuit-evasion policies and tilt-rotor dynamics
- Mechanical and electrical engineering lead, designed and built a novel autonomous tilt-rotor quadcopter drone
- Integrated PX4 firmware for SITL, HITL, and on hardware via PX4-ROS2 / uXRCE-DDS bridge, with custom drone model using serial communication between Pixhawk and Nvidia Jetson Orin Nano

Electrical Engineering Computer Science Department

August 2023 - May 2025

Graduate Student Instructor

University of California, Berkeley

- Provided weekly office hours to over 200 undergraduate and graduate students on homework, labs, and projects
- Primary grader of homeworks and projects and attended weekly meetings to help plan and manage the workflow of the course such as course content and deadlines
- **Courses:** EECS 106A / 206A - Introduction to Robotics, EECS 106B / 206B - Robotic Manipulation and Interaction

FHL Vive Center for Enhanced Reality

February 2023 - August 2023

Undergraduate Student Researcher

University of California, Berkeley

- Designed and built simple over-actuated drone, Arduino to Jetson control via serial communication
- Worked on the development of an optimization based control stack for over-actuated quadrotor drones
- Implemented lower level controller Linear Quadratic Regulator which ran under a higher level Model Predictive Controller

Space Technologies at Cal (STAC)

September 2022 - April 2024

Project Lead / Engineer / Team Lead

Berkeley, California

- Led the club's autonomous rover project for most of the 2023-2024 academic year which consisted of organizing and leading three different teams (EECS, Mechanical Engineering, Bioengineering) made up of about 50 total students
- Responsible for recruiting, managing, and teaching mainly areas such as control theory, dynamics, CAD, and 3D printing
- Software team lead of the rover project for the 2022-2023 academic year which consisted of teaching controls and basic robotic functioning as well as designing the inverse and forward kinematics of the arm and the Extended Kalman Filter

SKILLS AND INTERESTS

Languages: Python, C++, C, SQL, Java, HTML, CSS, Javascript

Libraries: ROS/ROS2, TensorFlow, CasADi, Sci-kit Learn, Matplotlib, Pandas, Seaborn, SymPy

Programs: Microsoft Office, SolidWorks, Blender, Gazebo, Unreal Engine, AirSim

Embedded Systems: Arduino, Soldering, 3D Printing, PDB design

PUBLICATIONS

Addison Kalanthur, **Daniel Bostwick**, Chinmay Maheshwari, Shankar Sastry. *Evader-Agnostic Team-Based Pursuit Strategies in Partially-Observable Environments*. RSS RMS Workshop 2025. [[Website](#)]

Gaby Mendoza, Addison Kalanthur, **Daniel Bostwick**, Emma Stephan, Chinmay Maheshwari, Shankar Sastry. *Coordinated Autonomous Drones for Human-Centered Fire Evacuation in Partially Observable Urban Environments*. IEEE GHTC 2025 (Under Review) [[Website](#)]

AWARDS

DToD Fellow: NSF Research Traineeship - Digital Transformation of Development / Developmental Engineering 2025