

Tim Brugarolas

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EDUCATION

UC Berkeley, College of Engineering

Berkeley, CA

Bachelor of Science in Electrical Engineering and Computer Science

Aug. 2024 – May 2026

- **GPA:** 3.940/4.000
- **Relevant Coursework:** Signal and Systems, Machine Learning, Analytical Mechanics
- **In Progress Coursework:** Feedback Control Systems, Introduction to Robotics

Pasadena City College

Pasadena, CA

Associate of Science for Transfer in Mathematics

- **GPA:** 4.00/4.00
- **Relevant Coursework:** Data Structures, Light and Lasers, Metrology of Optical Systems, Quality Assurance of Precision Optics.
- Certification as a Laser / Optical Technician

RESEARCH EXPERIENCE

Berkeley Lab, Laser Technologies Group

Berkeley, CA

Undergraduate Researcher; Advisor: Prof. Zorba

Nov. 2024 - Present

- Automated linear stages in Terahertz Time Domain Spectroscopy (THz-TDS) transmission experiment.
- Aligned mirrors, diffraction gratings, optical fibers, and waveplates in Optical Centrifuge for Isotope Detection and THz-TDS for Self-driving Lab Projects.
- Measured FWHM of laser pulse using FROG system and processing of the data in python.
- Qualitatively analyze aberrations caused to beam profile from 4F system with diffraction gratings.
- Visualized measurements in python using the matplotlib library.

USC, John O'Brien Nanofab

Los Angeles, CA

Intern; Advisor: Dr. Bhaskaran

June 2024

- Handled delicate silicon wafers through the lithography, deposition, and etching processes.
- Manufactured a neural probe.
- Tested the robustness of lab procedures.

TEACHING AND MENTORING EXPERIENCE

PCC, Math Success Center

Pasadena, CA

Tutor

May 2023 - June 2024

- Demonstrated difficult concepts in algebra, statistics, and calculus to struggling students.
- Advised students interested in pursuing degrees involving college level mathematics.
- Suggested study plans to fix weaknesses in understanding.

iDTech Summer Camps @ Caltech

Pasadena, CA

Lead Instructor / Assistant Director

June 2023 - Aug. 2023

- Taught middle school and high school students introductory robotics and 3D printing courses.
- Led field activities such as capture the flag, ultimate frisbee, and soccer.
- Facilitated communication between camp directors and other instructors.

SKILLS

Skills: Proficient in Python, Java, C++, C, Autodesk Inventor and Fusion360, Microsoft Excel and Word;
Conversational in Spanish; Teamwork; Technical Communication; Classroom Management.

SOCIETY MEMBERSHIPS

Eta Kappa Nu, Mu Chapter

Berkeley, CA

Candidate

Mar. 2025 - May 2025

Officer

May 2025 - Present

- Developed teaching materials for the directed study course "Going Down the EECS Stack" at Berkeley.

Tau Beta Pi, Alpha Chapter

Berkeley, CA

Candidate

Mar. 2025 - May 2025

Member

May 2025 - Present