

# Tim Brugarolas

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## EDUCATION

### UC Berkeley, College of Engineering

Bachelor of Science in Electrical Engineering and Computer Science

Berkeley, CA

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

Associate of Science for Transfer in Mathematics

Pasadena, CA

- 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

Undergraduate Researcher; Advisor: Prof. Zorba

Berkeley, CA

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

Intern; Advisor: Dr. Bhaskaran

Los Angeles, CA

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

Tutor

Pasadena, CA

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

Lead Instructor / Assistant Director

Pasadena, CA

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

Candidate

Officer

Berkeley, CA

Mar. 2025 - May 2025

May 2025 - Present

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

### Tau Beta Pi, Alpha Chapter

Candidate

Member

Berkeley, CA

Mar. 2025 - May 2025

May 2025 - Present