

At the young age of twenty-five, I have garnered a wide range of experiences from fourteen years of studying and ten years of teaching physics and mathematics. I spent five years as a graduate student at UCSD researching a variety of experimental plasma physics topics in the Beg and Driscoll–Dubin–O’Neil Groups, managed the Physics Tutorial Center, and served as Head Teaching Assistant of the undergraduate upper-division electronics lab. Prior to starting at UCSD, I spent one summer at Ultrahaptics as an R&D intern focusing on UX. While completing my bachelor’s at UCLA, I spent one and a half years researching plasma physics and acoustics in the Putterman Group, founded Upsilon Lab, an academic club to improve accessibility to undergraduate research, and spent a year as an undergraduate TA, affording me the privilege of personally teaching over 600 students between UCLA and UCSD. I have complemented my experiences in physics and pedagogy with both my nontraditional education, which brought me to the Stanford OHS at nine and UC Berkeley at ten, and through just under two years as a transportation planner at AECOM, with a focus on autonomous vehicle infrastructure and technology. I use this breadth of experience to bring original approaches and perspectives to every task I undertake.

## Education

<b>UCSD</b> • Master of Science in Physics • ADVISOR PROF. C. FRED DRISCOLL	2018 • 2023
<b>UCLA</b> • Bachelor of Science in Physics • COLLEGE HONORS • DEPARTMENTAL HONORS	2015 • 2018
<b>College of Marin</b> • Physics, Mathematics & General Courses	2012 • 2015
<b>UC Berkeley</b> • Lower Division Physics Courses • WITH PERMISSION OF FACULTY	2011 • 2013
<b>Stanford Online High School</b> • CHSPE 2013	2009 • 2014

## Employment

<b>Director • Gifted Education Mentor &amp; Advisor • Tutor</b> • Saret & Co. Education • Online • saret.co	SINCE 2015
<ul style="list-style-type: none"><li>• Tutoring countless and diverse students with a wide variety of needs and learning styles at levels from elementary to university.</li><li>• Advising students and families on available educational resources, especially for those with needs outside the typical curriculum.</li><li>• Mentoring students through various phases of their unique educational journeys, often informed by one-on-one tutoring.</li></ul>	
<b>Graduate Researcher</b> • Beg HEDP Group • UCSD Center for Energy Research • fbeg.ucsd.edu	2020 • 2023
<ul style="list-style-type: none"><li>• Worked with a wide variety of simulations and experimental designs characterize proton-heated warm dense matter.</li><li>• Contributed to all aspects of our experiments at the Laboratory for Laser Energetics in Rochester from design to execution.</li><li>• Authored several successful proposals for high-demand experimental time on major laser facilities.</li></ul>	
<b>Graduate Researcher</b> • Driscoll–Dubin–O’Neil Nonneutral Plasma Group • UCSD • nnp.ucsd.edu	2019 • 2020
<ul style="list-style-type: none"><li>• Operated, maintained and improved experimental apparatuses to measure physical phenomena in nonneutral plasmas.</li><li>• Mentored and supervised three undergraduates on independent research projects.</li></ul>	
<b>Research &amp; Development Intern</b> • Ultrahaptics (now Ultraleap) • Palo Alto	2018
<ul style="list-style-type: none"><li>• Conceived, designed and executed an experiment to improve the haptic experience on Ultrahaptics technology.</li><li>• Presented and discussed results at an all-hands meeting.</li><li>• Wrote an internal research paper describing the results, with concrete recommendations currently in use by Ultraleap engineers.</li></ul>	
<b>Undergraduate Researcher</b> • Putterman Plasma–Acoustics Group • UCLA	2017 • 2018
<ul style="list-style-type: none"><li>• Worked with a graduate researcher operating and upgrading her experiment on dynamics of high-density femtosecond plasmas.</li><li>• Worked with a graduate researcher operating his experiment and modeling the behaviors of a sulfur plasma.</li></ul>	
<b>Founder–President</b> • Upsilon Lab • UCLA • upsilonlab.org	2017 • 2018
<ul style="list-style-type: none"><li>• Co-founded and co-led a club to connect undergraduates with research opportunities in UCLA Physics &amp; Astronomy.</li><li>• Organized numerous events, coordinating with fellow students, administrators and faculty.</li><li>• Selected and onboarded ten managers and sixty members for ten research projects.</li></ul>	
<b>Transportation Planner • Transportation Planning Intern</b> • AECOM • Los Angeles	2016 • 2018
<ul style="list-style-type: none"><li>• Wrote two whitepapers on the state of the autonomous vehicle and micro transit industries.</li><li>• Studied land use and alignment options around the LA Metro D Line (Wilshire) extension and K Line (Crenshaw) construction.</li><li>• Co-led a community outreach event in Lawndale regarding a local redevelopment plan.</li></ul>	

# Teaching

**Instructor** - *F=ma* Physics - San Diego Math Circle - [sdmathcircle.org](http://sdmathcircle.org) ANNUALLY SINCE 2018

- Developing and delivering a custom curriculum focused on the *F=ma* exam to local students at the high school level.
- Wrote, refined, and published *F=ma Physics – A Review of Concepts and Techniques for the F=ma Exam* based on the course.
- Since I have been teaching the course, more than twenty students from SDMC have qualified for the USAPhO.

**Graduate Teaching Assistant** - Physics 4A & 4B - Physics for Physics Majors - UCSD WINTER • SPRING 2021

- Provided hands-on help to students in weekly discussions and office hours.
- Helped students meet and exceed the challenge of their first two intensive college physics courses.
- Cemented understanding and communication skills through biweekly one-on-one oral exams.
- Received overwhelmingly positive student evaluations, over 91% and 96% recommendation, respectively.

**Tutorial Center Manager** - Physics Department - UCSD - [tutorialcenter.ucsd.edu](http://tutorialcenter.ucsd.edu) FALL 2020

- Coordinating and scheduling dozens of teaching assistants and tutors to efficiently staff and operate the Tutorial Center.
- Ensuring a positive experience for a diverse body of undergraduates seeking help in every physics course offered at UCSD.

**Head Teaching Assistant** - Physics 124 - Electronics Projects Lab - UCSD WINTER 2020

- Mentored a new graduate student, preparing him to assume the Head Teaching Assistant position for Physics 120.
- Assisted instructor with creation of lab handouts and midterm.
- Helped numerous teams of students conceptualize, design, realize, and debug their capstone projects.
- Fostered teamwork and scientific communication skills through continuous feedback over the duration of the course.
- Received overwhelmingly positive student evaluations, over 94% recommendation.

**Head Teaching Assistant** - Physics 120 - Circuits & Electronics Lab - UCSD SPRING 2019

- Supervised and coordinated a team of seven teaching assistants with various skills and backgrounds.
- Delegated responsibilities, including teaching shifts, assignment grading, solution preparation and demonstration setup.
- Prepared and delivered three primary course lectures and weekly discussions.
- Assisted instructor with creation of lab handouts, midterm, and practical final exam and oversaw their administration.
- Faculty-nominated for departmental teaching award.

**Graduate Teaching Assistant** - Physics 120 - Circuits & Electronics Lab - UCSD WINTER 2019

- Provided hands-on help to students in the weekly laboratory session and office hours.
- Encouraged communication between students to best emulate a research laboratory environment.
- Gave detailed and constructive feedback while grading – lab report averages rose from 69% to 88%.
- Received overwhelmingly positive student evaluations, over 94% recommendation.

**Graduate Teaching Assistant** - Physics 2CL - Circuits & Electronics Lab - UCSD FALL 2018

- Provided hands-on help to students in two weekly laboratory sessions.
- Gave detailed feedback to help students improve their scientific communication skills.
- Faculty-nominated for departmental teaching award.

**Undergraduate Teaching Assistant** - Department of Physics & Astronomy - UCLA 2017 • 2018

- Provided hands-on help to students in weekly laboratory sessions for four offerings of three physics classes.
- Physics 117      Circuits & Electronics Lab      FALL 2017 • WINTER 2018
- Physics 118      Electronics Projects Lab      SPRING 2018
- Physics 180D      Acoustics & Fluids Lab      SPRING 2018