

## Nathan C. Song

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## Education

**University of California, Berkeley**

*B.A. Physics, B.A. Mathematics*

*Berkeley, CA*

*Grad. May 2025 (est.)*

- Relevant Coursework: **Math 110** (Linear Algebra) **Math 55** (Discrete Mathematics) **Math W128A** (Numerical Analysis), **Physics 89** (Intro Mathematical Physics), **Physics 5A, 5B, 5BL** (Intro Physics Series)

## Work Experience

**IMPACT-NG REU Undergraduate Researcher**

*June 2022 – August 2022*

- Created MEMs (Microelectromechanical) structures that latched onto fiber meshes. Electrically characterized said “grippers” across different operating conditions and proved their potential to make fully flexible circuits.
- Presented at NNCI Nano + Additive Manufacturing Summit; Currently writing paper for JIEEE-FLEPS
- *Relevant Skills:* Photolithography, SEM, Mask Design, Xenon Etching, Metal Deposition, Plasma cleaning, Wet etching, Parylene deposition, NEXUS (See U. of L), Probe station

**Ultrafast NanoOptics Group Undergraduate Researcher**

*September 2021- May 2022*

- Investigated novel properties of 2D materials with optical spectroscopy. Proficient in AFM, photolithography, PC-film manufacturing and exfoliation.

**Fluxergy Junior Web Developer**

*April 2021 – August 2022*

- Created current Fluxergy.com website while communicating with CEO/Advisory Board. Captured long-term corporate vision and optimized user experience.
- Used SEO data to optimize site search. Doubled website loading speed and streamlined customer integration with ActiveCampaign. Created guidelines for cleaner site maintenance and UI choices.

**Cal State University MechE Intern**

*June 2019 - August 2019*

- Built CAD models for a 12 DOF robot inspired by MIT’s ‘Cheetah’.
- Optimized part choices and designs in co-op with software intern.

## Skills

**Languages:** Python, Matlab, C++, HTML+CSS

**Tools and Frameworks:** Pandas, NumPy, OpenCV, Matplotlib

## Activities

**STEAM For All:** Outreach program for schools in Orange County / surrounding districts. Wrote 200+ AMC-style problems for biannual tournaments attended by ~250 middle school students. Lead monthly workshops for ~16 students on competitive math.

**PacificSTEM:** Outreach program for high schools in La Mirada / Diamond Bar. Lead student group to find speakers for annual STEM networking event from JPL, Mars Food, and CrowdStrike. Shifted event to Zoom format within a month (COVID-19), attendance ~50 high school students.

**Science Olympiad:** 1<sup>st</sup> Regionals Team. Medals: *SoCal Regional: 2<sup>nd</sup> Exp. Design, 3<sup>rd</sup> Machines; Transcon Tournament: 1<sup>st</sup> Machines, 2<sup>nd</sup> Detector Building; Mesa Wilson: 3<sup>rd</sup> Exp. Design*

## Honors and Awards

The Leadership Award (x2, UC Berkeley), President’s Gold Volunteer Service Award (X2), National Merit Semifinalist, AIME Qualifier, 2x All-Southern Concert Orchestra