

Garrett Kunkler

[gkunkler.github.io](https://github.com/gkunkler) [in gkunkler](https://www.linkedin.com/in/gkunkler) [gkunkler](https://www.github.com/gkunkler) [✉ gnkunkler@gmail.com](mailto:gnkunkler@gmail.com)

Education

California Polytechnic State University, B.S. Mechanical Engineering

San Luis Obispo, CA
Sep 2021 – (June 2026)

- **University Honors Program**
- **GPA:** 4.0/4.0
- **Minors:** Physics, Mathematics
- **Coursework:** Dynamics, Mechanics, Linear Analysis, Thermodynamics, Fluid Mechanics, Modern Physics, Circuits, Quantum Mechanics

KTH Royal Institute of Technology, International Exchange

Stockholm, Sweden
Aug 2024 – June 2025

- **Grade:** A
- **Coursework (Master's Level):** Acoustics, Medical Engineering, Electrodynamics, Game Theory, Computational Fluid Dynamics, Optimization, Environmental Physics

Research Experience

UC Santa Barbara, Physics Research Experience for Undergraduates (NSF REU)

Santa Barbara, CA
June 2025 - Aug 2025

- Assessed systematic uncertainties for the MicroBooNE neutrino experiment
- Prototyped machine learning model for particle selection

KTH Medical Imaging, Undergraduate Physics Research

Stockholm, Sweden
Aug 2024 - June 2025

- Monte-carlo simulation of particle interactions to improve development of new CT scanning sensors
- Created module in open-source simulation framework Allpix Squared
- Presented my new package at the annual Allpix Squared Workshop in Amsterdam

VERITAS, Undergraduate Physics Research

San Luis Obispo, CA
Sept 2023 - June 2024

- Analyzed gamma ray spectra from blazars
- Organized and presented preliminary results in student research fair poster
- Co-author on conference presentation and discovery proceedings

Industry Experience

Dexcom, Systems Engineering Intern (NDA)

San Diego, CA
July 2024 – Aug 2024

- Designed physical impact testing for wearable glucose sensors
- Created Gantt chart to ensure coordination between long lead-time tasks
- Modeled and 3D printed test fixtures to extend functionality of existing equipment
- Analyzed and presented data using DOE (Design of Experiment) software

Yaskawa, Engineering Intern (NDA)

Santa Clara, CA
June 2023 – Sep 2023

- Embedded robot controller programming for data integration
- Performed kinematic derivations and wrote microservice communication code
- Took 1D displacement laser measurements for hypothesis testing

Teaching Experience

Cal Poly SLO, Physics Learning Assistant

San Luis Obispo, CA

Jan 2023 - June 2024

- Facilitated in-class discussion with physics students
- Prepared for lessons with pedagogical discussions with faculty

Projects

Interdisciplinary Senior Project (NDA)

Sep 2025 - (June 2026)

- Designing a fluorescence measurement device

Herbie Robotics Project

Jan 2023 - Dec 2023

- Applied for and awarded grant funding through the Baker/Koob endowment
- Built an interactive and educational trailer for an autonomous robot
- Presented to local preschoolers

Cal Poly Robotics Club, Officer and Project Lead

Spring 2022 - Present

- Designing and assembling components of ongoing [astromech project](#)
- Created intentional onboarding projects to improve retention of new members

Personal Coding Projects

gkunkler.github.io/coding/

- Physics Monte Carlo Simulations, Language Parsing, etc.

Publications

Wystan Benbow et al. "Recent Highlights from the VERITAS AGN Discovery Program, " in Proc. of Gamma-2024. 2025. [Online] doi: [10.48550/arXiv.2503.11543](https://doi.org/10.48550/arXiv.2503.11543)

Presentations

Garrett Kunkler et al. "Reconstructing Neutrino Interactions with Machine Learning," presented at the UCSB Physics REU Symposium, Santa Barbara, CA, USA. August 18, 2025. (Poster)

Garrett Kunkler et al. "Investigating the Impact of Detector Modeling Uncertainties on Machine Learning Reconstruction in Neutrino Experiments," presented at the UCSB CSEP Summer Research Poster Colloquium, Santa Barbara, CA, USA. August 14, 2025. (Poster)

Garrett Kunkler, Rickard Brunskog, et al. "A Repulsive Effect: Modelling Coulomb Interactions in a 1-Micron X-ray CT Sensor," presented at the 6th Annual Allpix Squared User Workshop, Amsterdam, NL. May 8, 2025. [Online] Available: <https://indico.cern.ch/event/1489052/contributions/6483379/> (Oral)

Julia Francescutti, Garrett Kunkler, et al. "Detecting and Discovering Gamma-Ray Emitting Blazars with VERITAS," presented at the Cal Poly Baker Science Student Research Conference, San Luis Obispo, CA, USA. May 2024. (Poster)

Certifications

Oracle Certified Associate, Java SE 8 Programmer

Skills

Programming: Python, MATLAB, Java, C++, Typescript/React, C#, IEC 61131, GitHub, LaTeX, Linux, Jupyter Notebooks

Technologies: CAD (Solidworks, Onshape), 3D Printing, JMP