

# Tristan Larkin

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## Work Experience

### ***The University of New Mexico***

#### *Teaching Assistant*

**Albuquerque, NM**

Aug 2024 - Present

- Instructing in-person freshman level physics lab classes.
- Hosting office hours for students to supplement professor instruction.
- Grading for intermediate undergraduate physics classes.

### ***Sandia National Laboratories***

#### *R&D Year-Round Intern*

**Albuquerque, NM**

July 2022 - May 2024

- Designed, implemented, and tested Python code for simulating and analyzing concentrating solar power systems, particularly heliostats.
- Worked closely with other members of the OpenCSP team:  
<https://opencsp.sandia.gov/>.
- Used Slurm for high performance computing.

### ***The University of New Mexico***

#### *Student Researcher*

**Albuquerque, NM**

June 2022 - July 2022

- Researched the practicality of using convolutional neural networks in identifying instances of the Migdal effect.
- Explored a variety of machine-learning models using Tensorflow.
- Studied the Migdal effect to explore the different ways the model could pick up information from simulations.

## Education

### ***The University of New Mexico***

#### *Masters in **Physics** (in progress)*

**Albuquerque, NM**

Aug 2024 - Present

- GPA 3.75

#### *B.S. in **Physics** and B.S. in **Computer Science***

Aug 2020 - May 2024

- The Feynman Award in Contemporary Physics
- Minor in Math
- Designation in Honors
- Summa Cum Laude

## Extracurriculars

### ***Society of Physics Students: UNM Chapter***

2020 - 2024

- As president, I planned events and ran weekly meetings. Helped organize UNM Physics Day 2022 and the spring 2022 physics demo show.

### ***Boy Scouts of America***

2012 - 2020

- Earned Eagle Scout Rank in 2020

## Skills and Interests

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**Programming Languages:** Python • Java • Haskell • C • Julia

**Programming Skills:** Machine Learning • Scientific Computing • Unix • Functional Programming

**Physics and Math:** Quantum Computing • Differential Equations • Linear Algebra • Type Systems

**Excited to Learn More:** TypeScript • Category Theory • Differential Geometry • Dependent Type Theory

## Publications

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- [1] Brost, R., Evans, A., Good, K., Garcia Maldonado, L., & Larkin, T. (2024). Variation in Reflected Beam Shape and Pointing Accuracy Over Time and Heliostat Field Position. SolarPACES Conference Proceedings, 2. <https://doi.org/10.52825/solarpaces.v2i.851>
- [2] Brost, R., Smith, B., Hwang, M., & Larkin, T. (2024). Dual-Image Color Normalization to Enable High-Performance Concentrating Solar Optical Metrology. <https://doi.org/10.2172/2430263>