

# DANIEL GLAZER

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## EDUCATION

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**University of Chicago** Chicago, IL  
PhD, Astronomy and Astrophysics

**2022-Present**

**University of Cambridge** Cambridge, UK  
“Part III” Master of Advanced Study, Applied Math and Theoretical Physics

**June 2022**

**Carnegie Mellon University** Pittsburgh, PA  
Bachelor of Science, Physics

**December 2020**

## RESEARCH EXPERIENCE

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**University of Chicago** Dr. Austin Joyce

**September 2022-Present**

- Currently calculating Love numbers for higher dimensional Kerr black holes and studying associated symmetries.
- Calculation utilizes techniques from GR, Effective Field Theory, and Supersymmetry.

**Carnegie Mellon University** Dr. Riccardo Penco

**July 2020 - December 2020**

- Modeled the dynamics of vortex lines in superfluid  $^3\text{He}$  under the influence of gravity.
- Worked in an effective field theory with calculations involving non-Euclidean spacetime.

**Penn State University REU** Dr. Eric Hudson

**June 2020 - August 2020**

- Utilized machine learning to identify local strain in atomic scale images taken with a scanning tunnelling microscope
- Designed and implemented a convolutional neural network with custom simulated training data.

**Carnegie Mellon University** Dr. Markus Deserno

**June 2019 - August 2019**

- Modeled the stress-strain relation for a buckled membrane under thermal fluctuation.

**Carnegie Mellon University** Dr. Hy Trac

**June 2018 - August 2018**

- Constrained cosmological parameters in the field of reionization using statistical methods such as MCMC.

## PUBLICATIONS

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- *The Reionization Parameter Space Consistent with the Thompson Optical Depth from Planck*, Daniel Glazer et al 2018 Res. Notes AAS 2 135. DOI: 10.3847/2515-5172/aad68a

## PRESENTATIONS

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- “Developing a Convolutional Neural Network for Scanning Tunneling Microscopy Image Analysis”, SACNAS 2020 National Conference, Virtual
- “Characterizing Atomic Scale Strain Variations in 2D Materials with a Convolutional Neural Network”, APS March Meeting 2021, Virtual

## SKILLS

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**Programming Languages:** Python, Java, Mathematica

## EXTRACURRICULAR ACTIVITIES

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Professional Tutor/Teacher in Math and Physics

- Taught Precalculus at a local Jewish high school (Spring 2021). Designed a curriculum, wrote and graded homeworks/exams, taught in-person lectures 3x per week.
- Tutored local high school students in a range of subjects including AP Calculus, AP Physics C, and the SAT Physics Subject Test, as well as undergraduates as a peer tutor of the CMU Physics Department.