# DANIEL GOLE

**Astrophysicist and aspiring Data Scientist**

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## EXPERIENCE

### Research Assistant: Computational Fluid Dynamics and Planet Formation

**CU Boulder**

August 2014 – August 2019 Boulder, CO

- Studied the structure and behavior of protoplanetary disks including magnetic fields, turbulence, and planet formation.
- Performed 3D magnetohydrodynamic simulations of disk turbulence on the Summit and Stampede2 supercomputers.
- Analyzed data from simulations using python and associated libraries with many methods including temporal correlation analysis, perturbation analysis, spatial and temporal spectra, and time-dependent probability distributions.
- Made visualizations, animations, and graphics to present the results of simulations in presentations and publications.

### Graduate Part Time Instructor

**CU Boulder**

July 2018 – August 2018 Boulder, CO

- Instructor of record for an undergraduate introductory-level astrobiology course: "The Search for Life in the Universe".
- Interdisciplinary course and student-base that required teaching concepts from physics, astronomy, chemistry, biology, and geology to students from many backgrounds.

### Research Assistant: Photometric Data Reduction

**SUNY Geneseo**

May 2011 – May 2013 Geneseo, NY

- Implemented and improved a pipeline to reduce, standardize, and analyze photometric data from the WIYN 1m telescope as a part of the WIYN Open Cluster Study.
- Used an N-Body code to compute the long term behavior and stability of the large stars in the trapezium cluster.

### Research Experience for Undergraduates (REU): Pilot Survey Data Analysis

**Rensselaer Polytechnic Institute**

May 2012 – August 2012 Troy, NY

- Analyzed the first data release from the LAMOST Pilot Survey
- Calculated three dimensional positions and velocities of Milky Way stars using data from the survey in combination with proper motion and photometric catalogs.
- Looked for kinematic and chemical trends in the thin and thick disk components of the Milky Way and examined the sensitivities of these trends to systematic errors in the data.

## EDUCATION

### Ph.D in Astrophysical and Planetary Sciences

**University of Colorado at Boulder**

August 2019 Boulder, CO

Thesis: "Magnetic Fields and Turbulence in Protoplanetary Disks"

Advisors: Philip Armitage, Jacob Simon

### B.A. in Physics

**SUNY Geneseo**

May 2013 Geneseo, NY

magna cum laude | Minor: Mathematics

Advisors: Aaron Steinhauer, David Meisel

## SKILLS

**Python, Numpy, Matplotlib** ●●●●●

**Linux, Bash, Git/Github, Latex, Statistics, Mathematica, High Performance Computing** ●●●●○

**C, C++, Docker Pandas, sklearn** ●●●○○

Other Skills: Effective and concise communicator, presenter, and writer. Work well both individually and as a team member.

## FIND ME ONLINE

- Linkedin: https://linkedin.com/in/daniel-gole
- Github: https://github.com/dgole
- Personal Website: dangole.net