DANIEL GOLE

Astrophysicist and aspiring Data Scientist

@ dgole100@gmail.com (607) 742-1976 Boulder, CO

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 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