James Crowley

Astrophysics Graduate Student Researching Computational, High-Resolution Solar Physics

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EDUCATION

University of Colorado, Boulder, Astrophysics and Physics

August 2018 - May 2022

- Graduation expected May 2022
- GPA: 4.00
- Chancellor's Recognition Award, Presidential Scholar, Dean's List: 2018 - Present
- Astrophysics Honors Thesis, titled "Spectropolarimetric Inversions of the Quiet Sun"
    - Awarded Summa Cum Laude Latin Honors, Spring 2022

EXPERIENCE

Solar Physics Research Intern, National Solar Observatory

JANUARY 2020 - May 2022

Independently conducting a project under Dr. Ivan Milic to design code to study the structure of the Solar Atmosphere throughout the solar magnetic cycle. Presented project findings at Cool Stars 20.5 Conference, AAS SPD 238, and APS 4-Corners Division 2021 Meeting.

Learning Assistant, Physics Department, University of Colorado, Boulder

AUGUST 2021 - May 2022

Serve as an undergraduate Learning Assistant for Modern Physics at the University of Colorado, Boulder; facilitated learning through lectures, in-class activities, and in one-on-one interactions during office hours. Selected and planning to serve as a Learning Assistant in Spring 2022.

CU-STARs, University of Colorado, Boulder

August 2018 - January 2022

Member of CU-STARs (CU Science, Technology, and Astronomy Recruits), a student-led organization which travels to high schools and middle schools throughout Colorado to encourage students to explore careers in STEM fields by leading hands-on lessons and facilitating science-based learning in the classroom. Developed and implemented new lesson plans on black holes, local night skies, and STEM-related careers.

Astrophysics Research Intern, Clemson University

JANUARY 2017 - AUGUST 2019

Remotely operated three telescopes in Chile, Spain, and Arizona through the Southeastern Astronomical Research Association. Reduced and analyzed data using IRAF. Research focus incorporated observation and photometry for the study of star clusters.

Adjunct Instructor and Staff Astronomer, Roper Mountain Science Center

MAY 2016 - AUGUST 2020

Responsible for the operation of the Charles E. Daniel Observatory and presentation of astronomy through the Starry Nights public education outreach program. Prepared and facilitated the instruction of science curriculum for field trips and summer camps at the science center, interfaced daily with the public and represented the Roper Mountain Science Center at community events.

AWARDS & RECOGNITIONS

Hale Fellowship Recipient, 2022

Chancellor's Recognition Award, CU Boulder, 2022

SKILLS

Programming Languages:

- Python
- Bash Scripting
- Fortran
- IDL
- HTML

Research Computing: Experience with CU's Summit Research Computer and NASA's Pleiades Research Computer

PRESENTATIONS

Cool Stars 20.5, March 2021 (link)

AAS SPD 238, June 2021 (link)

SHINE 2021, August 2021

APS 4-Corners, October 2021 (link)