Jalyn N. Krause (she/her)

Baltimore, MD | +1(262)-492-8580 | *krausejalyn@gmail.com*

GitHub: */krausejalyn* | LinkedIn: */jalyn-krause* | Personal Website: *jalynkrause.com*

Experiences

Systems Engineer I, Space Telescope Science Institute   Baltimore, MD | Sept. 2023-Present

Responsible for the certification, integration and testing of various software subsystems for the Hubble Space Telescope, James Webb Space Telescope, and Nancy Grace Roman Space Telescope.

Assistant Staff, MIT Lincoln Laboratory   Lexington, MA | Oct. 2021-May 2023

Modeling & Analysis Team Member in the Advanced Laser Technology and Application Group.
My role was to maintain, develop and test software to predict global optical and atmospheric conditions.

➢ Point of contact for independently developed GUI to exchange results with external collaborators.
➢ Expand existing ground-based modeling software to support space-based systems and geometries.
➢ Identify and correct software errors through model validation testing to ensure result reliability.
➢ Independently create a MATLAB GUI to filter 200+ plotted results for comparison and data sharing.
➢ Leverage LEEDR, HITRAN, and MODTRAN softwares to model and analyze atmospheric effects.
➢ Simulate 50M+ images and refine machine learning algorithms to predict object orientation (Python).
➢ Optimize computation time and high volume data storage with MIT LL supercomputer (Linux; Bash).

Student Researcher, UW-Madison Dept. of Astronomy   Madison, WI | May 2019-Aug. 2021

Continue previous high-redshift galaxy modeling efforts by streamlining software in Python and centralizing code repository on GitHub for improved collaboration between a multi-national team.

Publication: Gallagher, John S.; et al., incl. Krause, Jalyn: *Hubble Space Telescope Imaging and the Structure of the Dusty Polar Ring LIRG Zw049.057*. Currently Under Review for ApJ Publication.

Student Researcher, UW-Madison Dept. of Astronomy   Madison, WI | Jan. 2018-Aug. 2021

Complete independent project designing a Python software using regression statistics to classify the metallicity profiles of star-forming galaxies to determine the evolution of dense stellar activity.

Publication: Swiggum, Cameren; Tremonti, Christy; et al., incl. Krause, Jalyn: *Understanding the Nature of an Unusual Post-Starburst Quasar with Exceptionally Strong NeV Emission*. 10 March 2022.

Education

The University of Wisconsin-Madison, Madison, WI   September 2016-May 2021

  B.S., Astrophysics and B.S., Physics
  Certificate in Environmental Studies

  Awards: UW-Madison's Computer Science NEST Innovation Competition (2nd Place)