

Spencer Riley

Contact Information

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Development Experience

C, Flutter, HTML, IDL, JavaScript, Python, R, Shell,
Docker, Jupyter, Kubernetes,

Work History

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|-------------|--|---|
| Present | Graduate Teaching Assistant | Montana State University |
| 24 Aug 2022 | Within the Physics Department, my responsibilities while in this position involved: <ul style="list-style-type: none">• Supervising and assisting in undergraduate physics laboratory classes.• Assisting instructors with grading assignments.• Tutoring physics students | |
| 29 Jul 2022 | Post-Bachelor's Researcher | Institute of Complex Additive Systems Analysis |
| 22 May 2022 | Research Intern | |
| 05 Sep 2017 | During my time in these positions, my contributions to projects I have worked on include: <ul style="list-style-type: none">• Data preprocessing for language detection models• Developing analytical methods for RF and Bluetooth models• Internet-Of-things research and metadata configuration• Writing Helm Charts for several Kubernetes applications The last project I worked on applied acoustic analysis as a method to detect aircraft. | |
| 16 Aug 2017 | High School Work Study | National Security Agency |
| 06 Sep 2016 | As a requirement of this position, I had to pass a background check and a federal investigation to obtain a Top Secret security clearance. The tasks I was assigned involved clerical work relating to inventory, data transfer requests, and documentation management. In addition, I was a part of the effort to prepare for the Inspector General's inspection. | |

Education

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| Present | Ph.D. Physics | Montana State University |
| Aug 2022 | | GPA: 2.85 |
| May 2022 | B.Sc. Physics | New Mexico Institute of Mining and Technology |
| Aug 2017 | Astrophysics and Atmospheric Physics Option Minor in Mathematics | GPA: 3.28 |

Publications

18 Mar 2022 **Atmospheric precipitable water vapor and its correlation with clear-sky infrared temperature observations**
Vicki Kelsey, Spencer Riley, Kenneth Minschwaner
Atmospheric Measurement Techniques
10.5194/amt-15-1563-2022

Presentations

Apr 2022 **The Precipitable-Water Model Analysis Tool: An open-source suite for estimating precipitable water with low-cost instrumentation.**
Lubbock, TX *Spencer Riley, Vicki Kelsey*
National Weather Service, 5th Texas Weather Conference

Apr 2022 **Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared Temperature Observations**
Lubbock, TX *Vicki Kelsey, Spencer Riley*
National Weather Service, 5th Texas Weather Conference

Jan 2020 **Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared Temperature Readings**
Boston, MA *Vicki Kelsey, Spencer Riley*
American Meteorological Society Annual Meeting 100

Nov 2019 **Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared Temperature Readings: Data Analysis**
Providence, RI *Spencer Riley, Vicki Kelsey*
Physics Congress 2019

Research Projects

Present **The Precipitable Water Project**
Jan 2019 The purpose of the research is to develop a method to estimate the amount of precipitable water from the effective temperature using low-cost instrumentation. As a part of the data collection process, we collected daily ground and sky temperatures to be analyzed by our preprocessing and analysis software suite.
Collaborators: *Vicki Kelsey, Dr. Kenneth Minschwaner*
Documentation Page: `pmat.app`

Development Projects

Maintained **Precipitable-Water Model Analysis Tool**
v2.0 An open source software suite for the analysis of precipitable water.
Documentation Page: `docs.pmat.app`

Not Maintained **pacviz**
v1.0.2 A R package comprised of informal, radial data visualizations for regression and comparative analysis.
Documentation Page: `pacviz.sriley.dev`