

# Spencer Riley

## Contact Information

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Dev Board : board.sriley.dev

## Development Experience

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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:

- 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

22 May 2022

### Research Intern

05 Sep 2017

During my time in these positions, my contributions to projects I have worked on include:

- 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

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- 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

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- Apr 2022  
Lubbock, TX      **The Precipitable-Water Model Analysis Tool: An open-source suite for estimating precipitable water with low-cost instrumentation.**  
National Weather Service, 5<sup>th</sup> Texas Weather Conference
- Apr 2022  
Lubbock, TX      **Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared Temperature Observations**  
National Weather Service, 5<sup>th</sup> Texas Weather Conference
- 
- Jan 2020  
Boston, MA      **Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared Temperature Readings**  
American Meteorological Society Annual Meeting 100
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- Nov 2019  
Providence, RI      **Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared Temperature Readings: Data Analysis**  
Physics Congress 2019

## Research Projects

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- Present*
- Jan 2019      **The Precipitable Water Project**  
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

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- Maintained  
v2.0      **Precipitable-Water Model Analysis Tool**  
A computational utility to analyze the data to quantify the relationship between the zenith sky temperature and precipitable water.  
Documentation Page: [docs.pmat.app](#)
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- Not Maintained  
v1.0.2      **pacviz**  
A R package comprised of informal, radial data visualizations for regression and comparative analysis.  
Documentation Page: [pacviz.sriley.dev](#)