

# Spencer Riley

## Contact Information

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## Development Experience

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

## Work History

Present	<b>Graduate Research Assistant</b>	[Montana State University]
01 Jun 2023		
01 Jun 2023	<b>Graduate Teaching Assistant</b>	
24 Aug 2022	Within the Physics Department, my responsibilities while in this position involved: <ul style="list-style-type: none"><li>• Supervising and assisting in undergraduate physics laboratory classes.</li><li>• Assisting instructors with grading assignments.</li><li>• Tutoring physics students</li></ul>	
29 Jul 2022	<b>Post-Bachelor's Researcher</b>	[Institute of Complex Additive Systems Analysis]
22 May 2022		
22 May 2022	<b>Research Intern</b>	
05 Sep 2017	During my time in these positions, my contributions to projects I have worked on include: <ul style="list-style-type: none"><li>• Data preprocessing for language detection models</li><li>• Developing analytical methods for RF and Bluetooth models</li><li>• Internet-Of-things research and metadata configuration</li><li>• Writing Helm Charts for several Kubernetes applications</li></ul> The last project I worked on applied acoustic analysis as a method to detect aircraft.	
16 Aug 2017	<b>High School Work Study</b>	[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

<i>Present</i>	<b>Ph.D. Physics</b>	[Montana State University]
Aug 2022		GPA: 2.85
May 2022	<b>B.Sc. Physics</b>	[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
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- 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*
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- 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

- 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](#)