







# Spencer Riley

 (505)205-9115

 sriley.dev

 academic@sriley.dev

 github.sriley.dev

 board.sriley.dev

## Development Experience —

C

Javascript

Python

R

Java

Bash

HTML

sklearn

TensorFlow

Docker

Flask

GCloud

GitHub

Kubernetes

Raspberry Pi

Arduino

## Work History

	Teacher Assistant	Montana State University
24 Aug 2022		
29 Jul 2022	Post-Bachelor's Researcher	Institute of Complex Additive Systems Analysis
23 May 2022		
22 May 2022	Research Intern	
05 Sep 2017	The position involved tasks regarding a variety of different projects around the theme of complex systems analysis. As a part of a team, I have worked on projects regarding data preprocessing for language detection models, analysis of RF and Bluetooth models, and Internet-Of-Things research and development.	
16 Aug 2017	High School Work Study	National Security Agency
06 Sep 2016	The position required a thorough background check, federal investigation including a polygraph, as part of the application in order to obtain Top Secret security clearance. Most of the tasks that were assigned revolved around clerical work, specifically inventory and data transfer requests added with Inspector General inspection preparations.	

## Education

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

## 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

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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.**  
*Spencer Riley, Vicki Kelsey*  
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**  
*Vicki Kelsey, Spencer Riley*  
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**  
*Vicki Kelsey, Spencer Riley*  
American Meteorological Society Annual Meeting 100

Nov 2019  
Providence, RI

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

## Research Projects

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Present

Jan 2019

### The Precipitable Water Project

This research is based on developing a computational model of the relationship between daily precipitable water measurements and the atmospheric temperature. The goal of this research is to develop and utilize the relationship using low-cost instrumentation to deduce the amount of precipitable water from the effective temperature.

**Collaborators:** *Vicki Kelsey, Dr. Kenneth Minschwaner*

**Documentation Page:** `pmat.app`

## Development Projects

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Maintained  
v1.0.1

### pacviz

A R package comprised of informal, radial data visualizations for regression and comparative analysis.

**Documentation Page:** `pacviz.sriley.dev`

Maintained  
v2.0

### Precipitable-Water Model Analysis Tool

An open source software suite for the analysis of precipitable water.

**Documentation Page:** `docs.pmat.app`