Spencer Riley

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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
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

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Presentations

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, 5th 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, 5th 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

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

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`