Spencer Riley

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sriley.dev

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Development Experience

C | Javascript | Python | R

Bash | HTML

sklearn | TensorFlow

Docker | Flask | GCloud | GitHub

Raspberry Pi | Arduino

Currently Learning

Java | Flutter

TensorFlow Quantum | QISKit

Kubernetes

Android

Work History

Present – 23 May 2022
Post-bachelor's Researcher
Institute of Complex Additive Systems Analysis

22 May 2022 – **05 Sep 2017**
Research Intern — **Institute of Complex Additive Systems Analysis**
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 – **06 Sep 2016**
High School Work Study — **National Security Agency**
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 – *Aug 2022*
Ph.D. Physics — **Montana State University**
Dissertation in TBA
GPA: TBA

May 2022 – **Aug 2017**
B.Sc. Physics — **New Mexico Institute of Mining and Technology**
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`