

Cirriculum Vitae
Spencer Riley
University of Michigan Climate and Space Science and Engineering Doctorate



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Development Experience

C Javascript Python R Bash HTML
sklearn TensorFlow Docker Flask GCloud
GitHub Raspberry Pi Arduino

Currently Learning

Java TensorFlow Quantum QISKit
Kubernetes Android

Work History

Present

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

May 2022

Aug 2017

B.Sc. Physics

New Mexico Institute of Mining and Technology

Astrophysics and Atmospheric Physics Option

Minor in Mathematics

GPA: 3.26

Publications

Under Review

Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared Temperature Observations

Vicki Kelsey, Spencer Riley, Kenneth Minschwaner

Atmospheric Measurement Techniques

10.5194/amt-2021-130

Presentations

- | | |
|----------------------------|--|
| Jan 2020
Boston, MA | Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared Temperature Readings
<i>Vicki Kelsey, Spencer Riley</i>
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
<i>Spencer Riley, Vicki Kelsey</i>
Physics Congress 2019 |

Research Projects

- | | |
|-----------|---|
| Present | The Precipitable Water Project |
| Jan 2019 | 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: <i>Vicki Kelsey, Dr. Kenneth Minschwaner</i>
Documentation Page: <code>docs.pmat.app</code> |
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| Present | Some Analysis for Looking at the Sun's Atmosphere |
| Sept 2021 | A project that aims to develop methods and utilities for observing the Sun's photosphere and outer atmosphere via low-cost instrumentation. A major milestone for this project is the development of the SALSA mobile application which will display data regarding astronomical objects, the weather, and solar information.
Documentation Page: <code>salsa.sriley.dev</code> |

Development Projects

AtmosAccess: A Python package to retrieving atmospheric data. The goal of this project is to easily connect with the NOAA Data Access API and the Suominet database to consolidate PMAT dependencies.

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

docs: `pacviz.sriley.dev`

Precipitable-Water Model Analysis Tool: An open source software suite for the analysis of precipitable water.

docs: `docs.pmat.app`

SALSA Mobile App: A mobile application that displays astronomical, solar, and meteorological data based on user location.

docs: `salsa.sriley.dev`