University of Michigan Climate and Space Science and Engineering Doctorate



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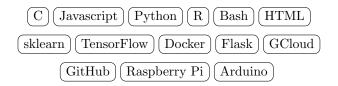
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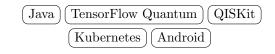


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Development Experience

Currently Learning





Work History

Present

Research Intern

Institute of Complex Additive Systems Analysis

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

May 2022

B.Sc. Physics

New Mexico Institute of Mining and Technology

Aug 2017

Astrophysics and Atmospheric Physics Option Minor in Mathematics

Willor 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 Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared

Boston, MA Temperature Readings Vicki Kelsey, Spencer Riley

American Meteorological Society Annual Meeting 100

Nov 2019 Atmospheric Precipitable Water and its Correlation with Clear Sky Infrared

Temperature Readings: Data Analysis

Spencer Riley, Vicki Kelsey Physics Congress 2019

Research Projects

Present The Precipitable Water Project

Jan 2019

Providence, RI

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: docs.pmat.app

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: salsa.sriley.dev

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

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