TJ Slezak

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tjslezak
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tslezak

Education

Certificate | Data Science
Galvanize Inc. | 2019

M.S. | Geology
Brigham Young University | 2017
- Statistical shape analysis of craters

B.S. | Earth & Space Exploration (Geological Sciences)
Arizona State University | 2015
- Minor: Sci., Tech., & Society

Skills

Programming
Python
R
Julia
Unix/Linux

Data Analysis
Pandas
Numpy
SciPy
scikit-learn
statsmodels
BeautifulSoup
PyViz
NLTK
Tensorflow
Tableau

Database Management
SQL
MongoDB
REST APIs
JSON
Bash
Git

Big Data
Apache Spark
Hadoop
MapReduce
Hive
AWS, GCP, Azure
Docker

Community

DesertPy Co-Organizer
2018 - Present

Experience

Galvanize | Data Science Alumni
Winter 2019 - Present
- advanced data science skills through projects and collaboration
- predicted Phoenix metro hit & run accident frequency using open data
- examined use cases for modern satellite data in machine learning applications

Brigham Young University | Research & Teaching Assistant
Fall 2015 - Winter 2017
- investigated how landform morphology relates to geologic processes
- delivered science content and materials at the university level
- developed course curriculum to meet new educational objectives

Lunar and Planetary Institute | Exploration Intern
Summer 2016
- planned a human-telerobotic mission on an international team for NASA HQ
- prepared & analyzed global lunar datasets
- identified high-value science targets for future lunar exploration

Arizona State University | Pancam Research Aid
Fall 2013 – Summer 2015
- processed & calibrated raw imagery acquired by the Opportunity (MER) rover
- Developed Python and Bash scripts to assist with operational objectives
- co-managed science team workstations, servers, & scientific software

NASA Jet Propulsion Laboratory | Intern
Summer 2014
- updated slope stability analysis for thermal constraints to refine predictions
- constrained the mechanical strength and composition of Io's upper crust

U.S. Geological Survey, Astrogeology Branch | Research Associate
Summer 2013
- tested the strength of Io's crust using observations and proposed compositions
- performed slope stability analysis on 50+ physical and material variables

Projects

Slezak, 2019: "Geomapper" https://github.com/tjslezak/capstone </>
- A predictive geologic mapping tool using multi-spectral satellite imagery and a convolutional neural network model to map regions of Arizona's geology.

Allender E.J., et al. 2018. Traverses for the ISECG—GER Design Reference Mission for Humans on the Lunar Surface. Advances in Space Research.

Slezak T.J., J. Radebaugh, and E.H. Christiansen 2018. Quantitative Morphological Classification of Craterforms Using Multivariate Outline-Based Shape Analysis. Lunar Planet. Sci. XLVIII, #2640.