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 AWS open 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 instruction at the university level
- advanced course curriculum to meet new educational objectives

Lunar and Planetary Institute | Exploration Intern
Summer 2016
- planned a human-telerobotic lunar return mission on a multinational team
- analyzed > 2 TB of lunar datasets and identified high-value science prospects
- delivered findings to senior members of NASA HQ and international committees

Arizona State University | Pancam Research Aide
Fall 2013 – Summer 2015
- processed & calibrated raw imagery acquired by the Opportunity (MER) rover
- created Python and Bash scripts to assist with mission operations
- managed 20+ science team workstations and servers

NASA Jet Propulsion Laboratory | Intern
Summer 2014
- improved slope stability analysis using thermal constraints to refine predictions
- refined estimates for the mechanical strength of Io's upper 5 km of crust
- modeled and simulated over 350 additional variations in parameters

U.S. Geological Survey, Astrogeology Branch | Research Associate
Summer 2013
- evaluated Io's crustal strength using observations and proposed compositions
- performed slope stability analysis on 50+ physical and material variables
- learned Interactive Data Language (IDL) programming language

Projects

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.