TJ Slezak

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tjslezak
(602) 354-0733
tslezak

Education

Certificate | Data Science
Galvanize Inc. | 2019

MS | Geology
Brigham Young University | 2017
- Research: shape analysis of craters
- Advisor: Jani Radebaugh

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

Community

DesertPy Co-Organizer
2018 - Present

PyData Phoenix Organizer
2019 - Present

Skills

languages
Python
SQL
Unix/Linux
R

machine learning
data structures & pipelines
web scraping & data mining
probability
linear & logistic regression
bayesian inference
random forests
boosting & gradient descent
natural language processing
A/B testing
recommenders & forecasting
dimensionality reduction
unsupervised learning
computer vision
deep learning

technology
Docker w/ Nvidia GPUs
Cloud: AWS, GCP, & Azure
Spark, Dask, & Hadoop
PostgreSQL & mongoDB
QGIS & GDAL

Experience

Galvanize | Data Science Fellow
Fall 2018 - Present
- advanced data science skills through projects and collaboration
- analyzed Phoenix metro hit & run accident prevalence using open data
- examined use cases for COG satellite data in machine learning applications

Brigham Young University | Research & Teaching Assistant
Fall 2015 - Winter 2017
- investigated how the morphology of landforms 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 | Graduate 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 Team Research Aid
Fall 2013 – Summer 2015
- processed & calibrated raw imagery acquired by the opportunity (mars) rover
- co-managed science team workstations, servers, & scientific software

Jet Propulsion Laboratory | NASA PGGURP Research Intern
Summer 2014
- modeled slope stability of observed scarps on Io thermal constraints
- constrained the mechanical strength and composition of Io's upper crust

U.S. Geological Survey, Astrogeology Branch | Research Associate
Summer 2013
- tested a model of Io's upper 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 </>
- Datasets: Multi-spectral satellite imagery and the Geologic Map of Arizona
- Task: Map the geology of regions using semantic segmentation (tensorflow)
- Training: 24 hrs on a P3.2XLarge GPU instance. Achieved: 71% recall score

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.