TJ Slezak

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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 to present
pydata phoenix organizer
2019 to present

skills

languages
Python
SQL
Unix/Linux
R

machine learning

tools
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

tech
docker w/ nvidia GPUs
cloud: AWS & GCP
spark, dask, & hadoop
postgreSQL & mongoDB
QGIS & GDAL

experience

Galvanize | data science fellow
Fall 2018 - Present
- advanced and maintained data science skills through projects and collaboration
- examined Phoenix metro area Hit & Run accident prevalence using open datasets
- explored the use of modern satellite data in machine learning applications

Brigham Young University | research and 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
- modified 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-scale 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 / pubs

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. ⌗