Timothy Salazar *Data Science - Geography*

970.405.2947 | timothy.salazar@colorado.edu | linkedIn: in/timothy-salazar/ | github: github.com/timothy-salazar

Projects:

Freshwater Macroinvertebrate Identification (2017): Built a convolutional neural net to identify images of insects commonly found in streams, which can be used to assess water quality. 8,500 mages were scraped from several websites using the requests and BeautifulSoup libraries. Image processing was done with Skimage, and the CNN was built using Keras.

Skills:

Data Science and Machine Learning

Non-Parametric Models: Decision Trees, Random Forest, Boosting (including AdaBoost). K-Nearest-Neighbors, Hierarchical Clustering, Neural Networks (MLP, CNN, RNN, and LSTM), Dimensionality Reduction (PCA, SVD, and NMF)

Statistical Methods

Regression, classification, and clustering methods. Bayesian and Frequentist probability. Hypothesis testing. Data visualization and interpretation.

Python

NumPy, SciPy, Pandas, and Matplotlib. Machine learning libraries including Keras and Sklearn. Big Data libraries including Spark and Hadoop. Database management thorough SQLite, Postgres, and MongoDB.

Geography and Hydrology

GIS, Streamflow measurement, water quality assessment, groundwater sampling and monitoring, and wilderness first aid. Analytical chemistry techniques including sample preparation. measurement of pH, conductivity, total organic carbon, and water isotopes.

Education:

Galvanize Data Science Immersive: **2017- Present**

- Learned and applied machine learning techniques and statistical methods to real world case studies, including churn prediction for a ride sharing company, fraud detection, and predicting sale price for farm equipment.

CU Boulder: **2009-2015**

- BA in Geography, minor in Ecology and Evolutionary Biology.
- Hydrology and Water Resources Certificate.

Experience:

2015 Niwot Ridge LTER Snow Hydrology Internship:

Field techniques: used backcountry skis to reach site, used federal sampler, dug snow pits, and used density cutters to make measurements.
Laboratory techniques: performed sample preparation and analysis at the Kiowa Environmental Chemistry lab. Entered data into database for LTER.