ETHAN NELSON

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Professional Experience

Software Engineer   May 2021-Present
ARCTEC Solutions   *Middleburg, VA*
- Automation of software installation tasks.
- Designing and integrating interactive GUI/ UIX to control automated build processes.
- Modification of existing code to stream data more effectively than natively designed.
- Present research findings to a team of engineers.

Data Science Intern   Jan 2021-April 2021
Snow Data Science   *Houston TX, Rexburg, ID*
- Used data visualization to create results that were easily interpreted by humans.
- Researched unsupervised machine learning algorithms pertaining to clustering and use of dimensionality reduction (PCA).

Data Reviewer, Annotator   Feb 2020-Jan 2021
Research & Business Development Center   *Rexburg, ID*
- Conducted research under a Machine Learning Engineer in order to increase working knowledge on machine learning algorithms specifically dealing with neural networks, semantic segmentation and point cloud classification.
- Built <u>neural network</u> with Point Net and TensorFlow to classify point cloud data to help achieve a fully automated warehouse.
- Correctly applied algorithms to classify point cloud data.
- Lead team that contributed to 80,000+ image data set to train machine learning algorithms in recognizing product details.

Research Projects

Fault Detection- Research on predicting faults in oil pipelines. Use of unsupervised machine learning and dimension reduction to predict and then visualize groupings. Sponsored by [Snow Data Science](https://snowdatascience.com)**.**

Image Colorization- Predicted the colored counterpart of grayscale images. Research into different color spaces such as LAB. Applied findings to different use cases such as image compression.

Point Cloud Classification- Use of neural networks to predict classification of point cloud images for use in robotic warehouses.

Technical Experience

- Python 2.7, 3
- Machine Learning
- Data Visualization
- Tensorflow/ Keras
- Computer vision
- Networking
- Microcontrollers
- Linux
- 3D modeling (Autodesk Inventor)
- C++
- Agile/ Scrum
- Debugging

Education

Brigham Young University-Idaho   Sep 2021
BS. Science in Computer Science   *Rexburg, ID*