

ETHAN NELSON

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Professional Experience

Software Engineer

May 2021-Present

ARCTEC Solutions

Middleburg, VA

- Automation of software installation tasks.
- Modification of existing code to stream data more effectively than natively designed.
- Present research findings to a team of engineers.
- Creating a data dissemination tool to pull data from APIs and remote databases to store into a local database.

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 neural network 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](#).

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. Dealt with lidar imagery.

Technical Experience

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|----------------------|--------------------------|-----------------------------------|
| • Python 2.7, 3 | • Computer vision | • 3D modeling (Autodesk Inventor) |
| • Machine Learning | • Networking | • C++ |
| • Data Visualization | • Object oriented (OOP) | • Agile/ Scrum |
| • Tensorflow/ Keras | • Linux (Ubuntu, RedHat) | • Debugging |

Education

Brigham Young University-Idaho

BS. Science in Computer Science

Sep 2021

Rexburg, ID