ETHAN NELSON

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Education\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Brigham Young University-Idaho**  Apr 2021

*BS. Science in Computer Science Rexburg, ID*

|  |  |  |  |
| --- | --- | --- | --- |
| Python | Machine learning | Data visualization | SQL |
| TensorFlow/Keras | Plotly/ Matplotlib | Clustering, Neural Nets | C++ |

Work Experience\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Data Science Intern** Jan 2021-Present

***Snow Data Science*** *Houston TX, Rexburg, ID*

* Using data visualization to create results that are easily understandable
* Researching unsupervised machine learning algorithms pertaining to clustering and use of PCA
* Program will work with large systems to detect and pinpoint where faults are occurring

**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](https://github.com/einelson/Point-cloud-classification-keras) 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.
* Contributed to 80,000+ image data set to train machine learning algorithm in recognizing product details

Project Experience\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[**Image Colorization**](https://github.com/einelson/Image_colorizer/blob/master/final_report.pdf)Nov 2019-Dec 2019

*Student Project Rexburg, ID*

* Trained a machine learning algorithm using an 800+ image database.
* Deepened knowledge on Convolutional Neural Networks and image pre-processing by experimenting and researching relevant data.
* Collaborated with team to maximize efficiency in preparing training and modeling training data to speed up result time.

[**EEG Eye-State Data Research**](https://github.com/einelson/EEG-Eye-State-data-set/blob/master/eeg.ipynb)Jan 2020-Feb 2020

*Personal Project Rexburg, ID*

* Conducted and applied research in order to understand EEG data and how it works with machine learning.
* Built and trained a network that could classify eye state data with a 94.53% accuracy.

Other Relevant \_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[**Won nation-wide youth competition**](https://www.instructables.com/contest/improveyourroom/)  | enelson8 Sept 2013

* Used multiple technologies to create a creative home improvement project.
* Innovated, designed and built a system to toggle lights from bed.
* Use of 3-D printing, Raspberry Pi, Arduino, soldering, plexiglass.