

# ETHAN NELSON

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## Education

**Brigham Young University-Idaho**  
*BS. Science in Computer Science*

Apr 2021  
Rexburg, ID

## Skills

### Machine Learning:

- Python
- Keras / Tensorflow
- Sequential Models
- NumPy, Pandas

### Computer Science

- Python
- C++
- Javascript

## Project Experience

### Image Colorization

Nov 2019-Dec 2019

#### *Student Project*

Rexburg, ID

The purpose of this project was to train a convolutional neural network to predict the colored counter part of a black and white image.

- 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

Jan 2020-Feb 2020

#### *Personal Project*

Rexburg, ID

The purpose of this project was to preform research on EEG data and see if I could create a Deep Neural Network that could accurately classify the data. Research was performed on EEG node locations and neural network activations

- 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 EEG eye state data with a 96.53% accuracy

## Work Experience

### Data Annotator, Reviewer, Machine Learning Consultant

Feb 2020-Present

#### *Research & Business Development Center*

Rexburg, ID

To assist Lineage Logistics in data preparation. The goal here was to assist in preparing the data to train various Machine Learning algorithms in order to create a fully automated, machine run warehouse.

- Helped debug annotation tools pertaining to point cloud annotation to help create fully automated warehouse
- Contributed to 80,000+ image data set to train machine learning algorithm to maximize efficiency in recognizing barcodes on warehouse shipments
- Conducted research under a Machine Learning Engineer in order to increase working knowledge on machine learning algorithms specifically dealing with Neural Networks and Semantic Segmentation

### Front-End Developer

Sep 2019- Feb 2020

#### *House Cleaning Captains*

Rexburg, ID

Assisted a local startup company in designing a website and increasing exposure

- Built website to increase public exposure and increased exposure by 200% through use of SEO

- Maintained and updated website to help company maintain a professional appearance as well as allow workers to view/manage appointments

## **Carpenter**

Jul 2019- Feb 2020

*Brigham Young University-Idaho*

*Rexburg, ID*

Assisted in major university remodels including changing 1000+ doors campus wide, maintenance of ceiling and construction of shelving units

- Modified set plans to maximize efficiency in project execution by 100%
- Learned new skills pertaining to carpentry by listening and application in order to achieve professional results

## **Other Relevant**

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### **Amateur Radio Operator**

March 2020 – Present

- Participated in ERC communication channel (Emergency radio communication East Idaho)

### **Volunteer Representative- 2 year assignment**

Apr 2016 – Apr 2018

*London, England*

- Helped others set and plan to meet goals
- Dedicated time to serve others. Lead 6 other volunteers- trainings, overseeing statistics

### **Eagle Scout Recipient**

Oct 2015

*The Boy Scouts of America*

### **Won nation-wide youth competition**

Sept 2013

*Instructables.com*

- Used multiple technologies to create a creative home improvement project
- Use of 3-D printing, Raspberry Pi, Arduino, soldering, plexiglass