

# Alexander Cooper



alec.n.cooper@gmail.com



/AlecCooper



/alexander-cooper-646772108/



https://aleccooper.github.io/

## Languages

Python

## Libraries

NumPy  
PyTorch  
SciKit-Learn  
Matplotlib

## Databases

MySQL  
BigQuery  
Excel

## Tools

Linux/Unix  
Google Cloud  
LaTeX  
Git  
Docker

## Projects

### Inuktitut-English Word Classifier

- Inuktitut-English word classifier built with LSTM and convolutions neural networks
- Cleaned, parsed and tokenized a large training dataset
- Achieved a high degree of accuracy on test data after hyperparameters tuning

*Tools: Python, NumPy, PyTorch*

### Recreation of Self-Learning Monte Carlo Methods

- Developed software as part of a small team
- Wrote an implementation of algorithms presented in a scientific paper
- Performed a Monte Carlo simulation with a self learning update algorithm using linear regression

*Tools: Python, NumPy, Scikit-Learn*

### Experiments on MNIST Dataset

- Implemented a multi-label classifier and variational autoencoder using various neural network architectures
- Increased model performance using various hyperparameter tuning techniques

*Tools: Python, NumPy, PyTorch*

## Education

### Candidate for Bachelors of Science, Physics. University of Waterloo. 2020.

- Relevant Courses: Machine Learning in the Physical Sciences, Computational Physics I/II
- Varsity Track and Field

## Work

### Administrative Counselor at Frontier College

2018-2019

- Worked in a team to run a literacy camp in remote First Nations/Inuit communities of Attawapiskat and Inukjauk
- Managed a budget, organised community events, implemented a curriculum and dealt with the unique challenges of a northern life

### Camp Director at STEM Camp

2017

- Scheduled activities, supervised staff and implemented a curriculum based on Science, Technology, Engineering and Math

### Crew Manager at College Pro Painters

2016-2017

- Worked in a small team, assisted in training and supervision of new employees
- Demonstrated a high degree of organization and attention to detail

## Certifications:

### Google Cloud Qwiklabs Profile

- Google Cloud Essentials, Data Science on Google Cloud, Machine Learning APIs, Baseline: Infrastructure, Baseline: Data, ML, AI, BigQuery Basics for Data Analysts