Alexander Cooper

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Languages

Expert Knowledge:
Python
Basic Knowledge:
C++, Racket

Libraries

NumPy
Tensorflow
PyTorch
SciKit-Learn
Matplotlib

Databases

SQL
MongoDB
BigQuery
Excel

Tools

Linux/Unix
Google Cloud
LaTeX
Git
Django
HTML/CSS
Docker

Projects

Shakespeare Translator

Tools: Tensorflow, Beautiful Soup, Selenium, Pandas

- Language model that translates between Modern and Shakespearean English
- Used Tensorflow and various deep learning techniques to train/tune an advanced model
- Used web scraping to create a large dataset with BeautifulSoup/Pandas

Recreation of Self-Learning Monte Carlo Methods

Tools: Python, NumPy, Scikit-Learn

- Developed software as part of a small team
- Wrote an implementation of algorithms presented in a scientific paper
- Used a linear regression model to optimize a Monte Carlo simulation for a computational physics model

Strava Rankings

Tools: Django, Docker, PostgreSQL, nginx

- Created a Django based web app for users of the popular fitness tracking social network Strava
- Interacted with user data through Strava's REST API
- Created a fully deployable application with Docker, nginx and gunicorn

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 the 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

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