MICHAEL PEET

sumobot1.github.io | michaelpeet97@gmail.com | in/mjpeet | github/sumobot1

EXPERIENCE

Machine Learning Developer Intern   May - Aug 2019

Bloomberg, New York, NY

- Improved precision of linear spam classifier by 1% to achieve 0.94 Precision at required 0.8 Recall
- Improved inference timing accuracy and fixed feature generation bugs in C++ model training framework
- Standardized model evaluation process by adding dataset splitting, cross validation, and a more granular error breakdown to model evaluation pipeline
- Explored difference between composition of news and opinion articles, created model to classify them with 0.93 F1. Model and findings were presented to Artificial Intelligence Group and are being productized

Machine Learning Developer Intern   Sep - Dec 2018

Miovision, Kitchener, ON

- Designed, trained, and deployed an improved SSD object detection model to production, which decreased false negative rates by 61% on average and resolved critical detection issues. Efforts received company-wide recognition
- Rewrote loss function in Tensorflow resulting in an experimental model with a 50% decreased false positive rate
- Identified and fixed bottleneck in training infrastructure, making model training 2x faster on average
- Created Synthetic Data Training System using CARLA Autonomous Driving Simulator and OpenCV to improve model performance on underrepresented classes and challenging conditions
- Suggested implementation of cyclic learning rate schedule, leading to better performance and shorter model training times

Software Developer Intern   May 2017 - Apr 2018

Miovision, Kitchener, ON

- Utilized Ruby-Prof for performance profiling; fixes made report generation 200x faster, and PDF generation 6x faster
- Optimized Ruby on Rails' ActiveRecord ORM queries to make website performance 2.3x faster on average
- Decoupled long running tasks into Sidekiq Workers to eliminate legacy code, projected to save $21,800 yearly
- Diagnosed and fixed a production emergency in under 4 hours, which had caused all servers to be unresponsive
- Investigated reproducing Datalink environment in Docker, allowing for 16x faster setup and cross-platform coding

Software Developer Intern   Sep - Dec 2016

BuildDirect, Kitchener, ON

- Wrote Python layout filtering module, resulting in a 33% decrease in layout generation time and improved UI

Software Support Specialist   Jan - Apr 2016

Videostream, Kitchener, ON

- Shipped Continue Watching and Recent Downloads features into the Android/iOS/Web apps, used by 5000+ users daily

RECENT PROJECTS

TensorLine – Tensorflow Model Training Pipeline

- Created a data pipeline using Tensorflow to prepare tfrecords, train and export a model, and load it to make predictions
- Currently using TensorLine as a base to implement YOLOv3 object detection model based on research paper

Kaggle Machine Learning Challenges – Deep Neural Networks, Object/Sentiment Classification, NLP

- Wrote Convolutional Neural Network to classify 80x80 images of cats and dogs with 96% accuracy
- Wrote LSTM network to detect various types of toxic internet comments in multiple languages with 0.985 ROC AUC

Voluntel – Full Stack Web Application

- Web app to connect volunteers to opportunities. Wrote user profile, login, authentication, file management, posting creation

SKILLS

Languages: Python, Ruby, C++, R, HTML, CSS, JavaScript, Bash, Java, MySQL, C, Objective-C, MATLAB
Frameworks: Tensorflow (GPU), Ruby on Rails, Slim, Flexbox Grid, jQuery, React, AngularJS, MongoDB, Django, Express.js
Other: Matplotlib, NumPy, OpenCV, NLTK, Scikit-learn, Word2Vec, Pandas, CARLA Simulator, Conda, AWS, PassportJS

EDUCATION

Mechatronics Engineering, Honours Bachelor of Applied Science (BASc)   Graduating April 2020

University of Waterloo, Waterloo, ON (President's Scholarship)