

# MICHAEL PEET

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## EXPERIENCE

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### 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 0.8 Recall
- Provided more accurate inference timing estimates, improved model evaluation process, and fixed feature generation bugs in C++ model training framework
- 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

### Software Developer Intern

Jan - 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

### Software Developer Intern

May - Aug 2017

Miovision, Kitchener, ON

- 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

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### 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

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**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, Scikit-learn, Word2Vec, CARLA Simulator, Conda, AWS, PassportJS, Google Maps APIs

## EDUCATION

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**Mechatronics Engineering, Honours Bachelor of Applied Science (BASc)**

Graduating April 2020

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