MICHAEL PEET

I built my own computer!

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EXPERIENCE

Software Engineer ● Bloomberg %
Nov 2020 - Present

- Designed and built **live annotation pipeline** for Document Ranking Model, allowing for real-time performance monitoring
- Developed PySpark libraries for dataset retrieval and filtering, used company-wide

Software Developer ● Local Line %
May - Aug 2020

- Identified and fixed caching issues, **decreasing costs by $85,200/year.**
- Optimized Django n+1 queries, **improving page load times by over 5x**
- Rewrote localization and timezone support site-wide, fixing recurring timezone and DST issues

Machine Learning Intern ● Bloomberg %
May - Aug 2019

- Implemented **BiLSTM + Attention language classification model to classify news vs opinion articles with 93% F1**
- Improved timing accuracy for model inference and fixed unexpected behaviour in C++ model training framework
- Reduced variability in model evaluation scoring by adding cross validation, and improved error breakdown
- Researched combining MinHashes of tokens and Brown Clusters as features for Soft-Margin SVM

Computer Vision Intern ● Miovision %
Sep - Dec 2018

- Improved data augmentation methods and learning rate decay schedule, **resulting in 61% decrease in false negative rates** in production object detection model
- Received company-wide recognition for **resolving critical detection issues** with production model causing incorrect traffic light signalling
- Isolated and removed bottlenecks in training infrastructure, **making model training 2x faster**
- Researched improving RMSProp optimizer with **cyclic learning rate**, resulting in better model accuracy and faster training
- Rewrote Smooth L1 loss function in Tensorflow resulting in model with 50% decreased false positive rate
- Created Synthetic Data using CARLA Simulator to improve model performance on underrepresented classes and challenging conditions

Software Developer Intern ● Miovision %
May 2017 - Apr 2018

- Utilized Ruby-Prof for performance profiling; fixes **made report generation 200x faster, PDF generation 6x faster**
- Optimized n+1 queries, **improving page load times by 2.3x**
- Decoupled long running tasks into workers, **saving $21,800 yearly**
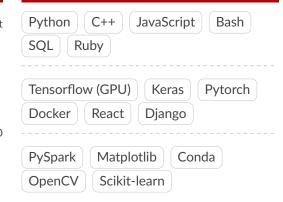- Diagnosed and fixed a complete product outage in under 4 hours

Software Developer Intern ● BuildDirect %
Sep - Dec 2016

Software Developer Intern ● Videostream %
Jan - Apr 2016

SKILLS

Python   C++   JavaScript   Bash
SQL   Ruby

Tensorflow (GPU)   Keras   Pytorch
Docker   React   Django

PySpark   Matplotlib   Conda
OpenCV   Scikit-learn

ACHIEVEMENTS

🏆 **MioWay Award**
Outstanding work on Miovision's Computer Vision Team

📶 **Voestalpine Award**
Outstanding Design Elegance for our Fourth Year Design Project, SLAP.

🎓 **Dean's Honours List**
In my graduating year

EDUCATION

Mechatronics Engineering, Honours BASc
Artificial Intelligence Specialization
University of Waterloo
📅 Sept 2015 – June 2020

Relevant Courses
- Data Warehousing and Mining
- Introduction to Machine Learning
- Computational Statistics and Data Analysis

PROJECTS

EfficientNet %
- Presented paper and implementation to Machine Learning Group at Bloomberg

Tensorflow Model Pipeline %
- Tensorflow data pipeline to aggregate data into tfrecords for faster training, and export trained models as frozen graphs

SLAP. %
- Help drivers find nearby parking using information from embedded sensors
- Provide lot owners with insight into parking trends with analytics dashboard