MICHAEL PEET

I built my own computer!

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New York, NY

% sumobot1.github.io

@sumobot1

in mjpeet

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 HDFS dataset retrieval and filtering, used
- Built pipeline using Kafka to ingest documents from SOLR datastore to HDFS storage for model training

Software Developer • Local Line %

May - Oct 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

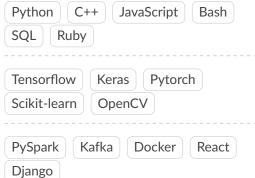


- Utilized Ruby-Prof for performance profiling; fixes made report generation 200x faster, PDF generation 6x faster
- Optimized n+1 queries, improving page load times by 2.3x
- Decoupled long running tasks into workers, saving \$21,800 yearly
- Diagnosed and fixed a complete product outage in under 4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

Software Developer Intern • BuildDirect %

Sep - Dec 2016

SKILLS



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

M 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