# Wojtek Swiderski

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## Skills

**Languages** Python, C/C++, Java, JavaScript, Scala
**Technologies** Spark, Tornado, Flask, Redshift, HBase, PostgreSQL, MongoDB, Kafka, Thrift, scikit-learn, Tensorflow, OpenCV
**Tools** Vim, Bash, Fish, Git, IntelliJ, Sublime Text

## Experience

### Quora
*Mountain View, California*

Software Engineering Intern — *August - December 2016*

- Launched machine learning model for related questions ranking that **increased signups by 5.5%**
- Ran and evaluated multiple experiments that tested online performance of related questions ranking models
- Built pipeline for training above models (logistic regression, gradient boosted decision trees, random forests) and evaluating them using AUROC and NDCG; decreased training time from 3 hours to 5 minutes by parallelizing feature extraction
- Refactored caching layer for related questions resulting in **90% less lines of code** and removal of a deprecated caching abstraction
- Used Spark to train a collaborative filtering model (ALS matrix factorization) on a matrix with hundreds of millions of items

### Uber
*San Francisco, California*

Software Engineering Intern - Uber for Business — *January - April 2016*

- Individually built three platform services responsible for centralized billing and cross data center transactions using Python/Tornado
- Architected payment transactions services to scale to **millions of users globally** and to replicate data across multiple data centers
- Migrated payment account metadata from PostgreSQL to Schemaless (Uber's scalable datastore); sharded data and built indexes to **allow for constant time queries**
- Employed MVCS design paradigm and polymorphism to support quick implementation of additional payment methods
- Used Thrift to create language agnostic service interfaces and to maintain a scalable codebase in Uber's service-oriented architecture

### Sony Creative Software
*Waterloo, Ontario*

Software Engineering Intern — *May - August 2015*

- Worked on Sony Catalyst series of three cross-platform applications for professional video preparation and editing
- Developed APIs for UI components such as context menus used by all three applications; built with C++ and the Qt Framework
- Designed and implemented a cross-platform framework for handling mouse and key system events
- Implemented a core feature which **detects and corrects flash bands in media**
- Worked with and debugged a large, multi-threaded codebase shared between multiple applications

## Personal Projects

### Human Pose Estimation — Cal Hacks 3.0

- Used Caffe to implement a human pose estimator using a pre-trained convolutional neural network from a *paper by Shih-En Wei*
- Currently working on training a convolutional neural network regressor from *deeppose by Google Research* using Tensorflow

### Answer Summarization — Quora Offroad

- Experimented with summarizing Quora answers using the *Berkeley Document Summarizer*
- Prepared answers for summarization by building their parse trees, resolving coreferences and applying named entity recognition

### Machine Learning Library

- Implemented a neural network, support vector machine and other algorithms from Andrew Ng's machine learning course in C++

### Sunami Music Player — Google Play Store

- Implemented smart suggestion system for music using a graph of genres generated with the Echo Nest API
- Architected the Android application using asynchronous methods and image caching resulting in a smooth and responsive UX

## Education

### University of Waterloo
*Waterloo, Ontario*

Candidate for Bachelor of Software Engineering — *2014 - 2019*

- Engineering and Mathematics Dean's Honours List (GPA 4.0/4.0)