Michael Y. Yu

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Key Skills: Python, Numpy, Pandas, Matplotlib, XGBoost/LightGBM, C, C++, Javascript, Typescript, React Native

Positions

Intel (PSG) **San Jose, CA**
Software Development Engineer *Jun 2018 – now*

- Worked with principal engineers to determine what data was needed to diagnose FPGA compiler results gap
- Created Python tools to process data (logs and XML) and make visualization plots to diagnose those issues
- Made sense of unspecified columns of data with exploratory Pandas scripts and cleaned data to be usable
- Wrote hooks in main C++ codebase to dump needed data and fixed various customer reported bugs

A Thinking Ape (Y Combinator backed social-mobile games company; millions of installs) **Vancouver, BC**
Software Developer Engineer, Intern *Apr – Aug 2013*

- Full-stack development on main product line of games at profitable <20 engineers start-up
- Designed and implemented account management UI on iOS and Android for new user ID system which tracked the same player on multiple devices via Facebook or email
- Collaborated with PM and wrote new algorithm for matching player teams in battle on Django server backend

BTI Systems (cloud and metro networking company, now acquired by Juniper Networks) **Ottawa, ON**
Web Developer, Intern *Feb – Jun 2012*

- Created web application for visualizing bug statistics using jQuery backed by PHP and SQL

Projects

The Resistance game React Native mobile app *Mar 2019 – now*

- Simplified real-time player interactions (including chat) implementation using Firebase and reactive pattern
- Maintained codebase health with modular design, React and MobX best practices, and custom React hooks

Two Sigma Kaggle Competition *Sep 2018 – Jan 2019*

- Placed 237^{th} / 2927 (Bronze Medal)
- Optimized ML workflow, *e.g.* built dependency graph feature management system to improve turnover time
- Invented a DSL to describe a probability distribution of features from which to sample and cross-validate on

G-Research Financial Forecasting Challenge ($30k prize Kaggle style competition) *Feb – Apr 2018*

- Finished 15^{th} / 404; first place explains 43.5% of private leaderboard's target variance, mine explains 42.0%
- Invented a greedy linear model for feature set selection and used Numba JIT to attain tractable run-time
- Wrote weighted versions of stats functions and MultiIndexing/reshaping utility code that Pandas was missing

Raytracer 3D Scene Renderer *Apr 2016*

- C++ raytracing engine that uses "distributed ray tracing" to render realistic lighting
- Profiled with Visual Studio to identify a caching opportunity in starter matrix utility code to run $10\times$ faster

Putnam Competition *Dec 2013*

- Was selected as part of university team of 3 people for school ranking and scored 30, which is rank 216 / $\sim$ 4000

Education

University of Toronto **Toronto, ON**
M.Sc. Mathematics (GRE Mathematics Subject Test score: 900 — 97 percentile) *Sep 2016 – Nov 2017*
H.B.Sc. Mathematics Specialist and Computer Science Major (CGPA: 3.87/4) *Sep 2012 – Jun 2016*

- Received $40,358 in academic awards and $36,500 in government research grants
- Finished Math Ph.D. course requirements (5/7 courses completed as undergrad) with A+ average
- Only one Specialist or two Majors is required for H.B.Sc degree completion