Richard Wu

rwu1997.com – me@rwu1997.com – github.com/richardwu – linkedin.com/in/rwu1997

Experience

Google | Software Engineering Intern
Mountain View, CA

Hands-on research on the Cloud & Borg team working primarily in C++, Go, and R.

- Ported, optimized and extended Go scheduling simulator—still in use by the Borg team—*reducing simulation runtime by 60x.*
- Simulated and benchmarked the impact of a cluster NUMA-aware algorithm on job scheduling; **drafted white paper for publication.**
- Analyzed CPU usage time-series to identify and implement improved load prediction algorithm, *reducing forecast lag from 47 to 7 seconds.*

Shopify | Developer Intern
Ottawa, ON

Backend work on shipping micro-service in Ruby and full-stack work on core Shopify platform in Rails.

- Introduced **ETL framework** with smaller, testable modules for polling tracking data from shipping carrier APIs.
- Implemented bulk USPS tracker polling, decreasing upper bound delay for tracking updates from *a few hours to 15 minutes.*
- Integrated shipment options, enabling **300k+ merchants** to purchase shipping label add-ons.

Publications

Cluster-Level NUMA Implementation & Evaluation
Co-author of paper on a NUMA-aware scheduling algorithm and its impact on Google workloads. **Pending review for publication at HPCA'18.**

Projects

Studbuds.com Tutoring Marketplace
Founder and lead developer. Rails web app that supports Stripe P2P payments, live notifications, and live chat over WebSockets. **250+ beta users**.

Awards

1st Place, Citadel Datathon
May 2017

$20,000 cash prize. Analyzed NYC transport data with statistical models to draw key conclusions in a team of 4.

- Employed **L2 logistic regression with 5-fold cross-validation** to predict transportation type given test rider with **mean AUROC of 0.7**

1st Place, Hack the North
September 2015

Top 12 teams out of 230+. Built an Android app that anonymously livestreams video to a web interface in a team of 4.

6th/6000+, Canadian Senior Mathematics Contest

98th Percentile, Canadian Open Mathematics Challenge

Education

University of Waterloo
Bachelor of Computer Science, Honors, 2020
GPA: 90%
- Dean's Honor List
- President's Scholarship of Distinction
- Software Engineering Entrance Scholarship
- Joe C. Lee Math Entrepreneurial Scholarship

Online
- Machine Learning (Coursera)
- ML with TensorFlow (Google)
- Supervised Learning with scikit-learn (DataCamp)

Skills

Languages
C++ • **Python** • Go • Ruby • R • SQL • Bash • C • JavaScript

Frameworks & Libraries
Linux • **Rails** • scikit-learn • pandas • matplotlib • data.table • ggplot2 • TensorFlow • Redis • Node.js • NGINX