Richard Wu

rwu1997.com – me@rwu1997.com – github.com/richardwu – linkedin.com/in/rwu1997 – 347-440-5684

Experience

Cockroach Labs | Software Engineering Intern
New York, NY

Backend work on the distributed SQL layer (Go).

- Introduced parallel stddev/variance aggregations and eliminated redundant aggregations, **reducing certain query times by 10-20%.**
- Designed and implemented more efficient SQL joins for interleaved tables (RFC), yielding **2.24x throughput** and **50% reduction in latencies.**

Google | Software Engineering Intern
Mountain View, CA

Hands-on research on the Borg team (C++, Go, R).

- Optimized and extended scheduling simulator, **reducing simulation runtime by 60x**.
- Analyzed CPU usage time-series to identify and implement improved load prediction algorithm, **reducing forecast lag from 47 to 7 seconds**.

Shopify | Software Developer Intern
Ottawa, ON

Backend and full-stack work on shipping API (Ruby).

- Integrated bulk CSV polling, decreasing update times from **a few hours to 15 minutes**.

Publication

NUMA Implementation & Evaluation
Co-author of paper on NUMA-aware scheduling algorithms and their impact on Google workloads. **Pending review for publication at CCGRID'18.**

Projects

BetterSQL optimizer   git.io/vbaEg
Prototype SQL query optimizer in OCaml.

Studbuds.com Tutoring Marketplace
Founder & lead developer. Rails web app with live notifications and chat over WebSockets. **250+ users.**

Awards

1st Place, Citadel Data Open
May 2017 & December 2017
Represented the University of Waterloo at the Data Open Championships after placing 1st out of 20 teams at the regional qualifiers.

- Employed **regression & classification models** such as penalized linear reg. and random forest to formulate statistically sound conclusions on US education data.

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 Math Contest

98th percentile, Canadian Open Math Challenge

Education

University of Waterloo
Bachelor of Computer Science, Honors, 2020
GPA: 90%
- President's Scholarship of Distinction
- Software Engineering Scholarship
- Joe C. Lee Math Entrepreneurial Award
- K.C. Lee Computer Science Scholarship
- Konrad Group Technology Scholarship

Online
- Machine Learning (Coursera)
- ML with TensorFlow (Google)

Skills

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

Frameworks & Tools
Linux • scikit-learn • pandas • matplotlib • TensorFlow • Rails • Make • Redis • NGINX