Richard Wu

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

Experience

Citadel | QR Analyst & Data Scientist Intern
May '18 – Aug '18, Chicago, IL

Alpha research on the Data Strategies Group.

- *(NDA)* Researched and productionized alpha from new datasets with **ML/statistical models**.

Cockroach Labs | Software Engineering Intern
Sep'17 – Dec'17, New York, NY

Distributed SQL processing for CockroachDB (Go).

- **Improved query times by 10-20%** by introducing parallel aggregations.
- **Increased query throughput by 2.24x** by designing and implementing more efficient SQL joins for interleaved tables (RFC: git.io/vNgoH).

Google | Software Engineering Intern
Jan'17 – Apr'17, Mountain View, CA

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

- **Streamlined simulation run times by 60x** by overhauling cluster scheduling simulator.
- **Shaved CPU load prediction lag from 47 to 7 seconds** by implementing an improved time series forecast algorithm.

Shopify | Software Developer Intern
May'16 – Aug'16, Ottawa, ON

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

- **Reduced multi-hour shipping updates to 15 minutes** by integrating bulk CSV polling.

Publication

NUMA Implementation & Evaluation
Lead author of paper on novel cluster scheduling algorithm and its impact on Google workloads.
Pending review for publication at M'WARE 18.

Projects

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

Studbuds.com Tutoring Marketplace
Founder & lead developer. 250+ users.

Awards

1st Place, UofT Citadel Data Open
January 2018
Placed 1st out of 25 teams at the University of Toronto regional qualifiers.

- Utilized **generalized linear models** to inference relationships between vehicular accidents and circumstantial factors.

1st Place, UofW Citadel Data Open
May 2017 & December 2017
Represented UofWaterloo at championships after placing 1st out of 20 teams.

- Employed **regression & classification models** to formulate statistically sound conclusions on US education data.

1st Place, Hack the North 2015
Built an Android app that anonymously livestreams video to a web interface.

6th/6000+, Canadian Senior Math Contest

98th percentile, Canadian Open Math Challenge

Education

University of Waterloo
Bachelor of Computer Science, Statistics minor, 2015 – 2019
GPA: 91%
- President's Scholarship of Distinction
- Software Engineering Scholarship
- Joe C. Lee Math Entrepreneurial Award
- K.C. Lee Computer Science Scholarship
- Konrad Group Technology Scholarship

Currently reading
- Deep Learning (Goodfellow et al.)

Skills

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

Frameworks & Tools
Linux • pandas/numpy • PyMC • sklearn • Keras • TensorFlow • StatsModels • Postgres