

# Richard Wu

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## SKILLS

### PROGRAMMING

Languages:

**Ruby** • **C++** • C • SQL • Python •  
Bash • Java • JavaScript • HTML/CSS

Frameworks and technologies:

**Rails** • Redis • GNU/Linux • Node.js •  
NGINX • AWS

Tools:

Git • Vim • tmux

## EDUCATION

### UNIVERSITY OF WATERLOO

BCS IN HONOURS COMPUTER  
SCIENCE

Expected May 2020 | Waterloo, ON  
mGPA: 93%

- President's Scholarship of Distinction
- Software Engineering Entrance Scholarship
- Joe C. Lee Math Entrepreneurial Scholarship
- Dean's Honour List

## COURSEWORK

### UNDERGRADUATE

Programming Principles in C  
Data Abstraction/Implementation in C++

### ONLINE

Data Structures and Algorithms (Coursera)  
Machine Learning (Coursera)

## DISTINCTIONS

- Top 125/6000 - Canadian Open Mathematics Challenge
- 6th/6000 - Canadian Senior Mathematics Contest
- Top 20 Finalist - Ontario Chemistry Olympiad

## EXPERIENCE

 | SOFTWARE ENGINEERING INTERN

January 2017 - April 2017 | Mountain View, CA

 | DEVELOPER INTERN

May 2016 - August 2016 | Ottawa, ON

Backend work on the internal shipping provider API in **Ruby**. Full-stack work on the core Shopify platform in **Rails**.

- Introduced a **formalized ETL framework** with smaller, testable modules for polling tracking data from shipping carriers
- Implemented USPS tracking information polling within the ETL framework using parallelized background jobs, decreasing upper bound of real-time tracking updates **from a few hours to 15 minutes**
- Integrated shipment options into our shipping microservice API using a **Log4j-like design pattern**, enabling **300k+ merchants** to purchase add-ons for their shipping labels

## PROJECTS

**STUDBUDS.COM** | CO-FOUNDER + LEAD DEVELOPER

June 2015 - present

University of Waterloo peer tutoring platform with 160+ registered students. A Velocity company. Built with **Rails, Redis and Sidekiq**.

- Implemented a **background payment pipeline** with the Stripe API, enabling automatic P2P payment authorization, captures, and refunds
- Integrated live chat and notifications over **WebSockets** that hook into user events
- Provisioned cron jobs to send emails for unread messages and updates

**NEWS\_SCRAPER** | RUBY GEM

August 2016 - present

ETL web scraper that aggregates news articles. Written in **Ruby**.

- Abstracted scraping title, content and other fields from articles into an ETL framework
- Implemented a **configuration-first architecture** that scales to scrape news articles from multiple sources
- Devised a **command-line interface** to simplify the process of supporting additional news sites

**ANONYMEYES.COM** | WINNER AT HACK THE NORTH 2015

September 2015

Public video feed where users can anonymously post videos that are instantaneously uploaded and backed up. Built with **Rails and AngularJS**.

- Implemented a **Rails server** that receives MP4 metadata and pushes updates to the web client via **WebSockets**
- Integrated a live dashboard on top of AngularJS that displays an interactive feed for all incoming video streams