



# Richard Wu

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## SKILLS

### PROGRAMMING

Over 4000 lines each:

Ruby • Rails • JavaScript • HTML/CSS • Vim

Over 1000 lines each:

C • C++ • SQL (MySQL/PostgreSQL) • Java

Familiar:

Shell (Bash) • GNU/Linux • Redis • AWS • NGINX • Python • NodeJS • Git

## EDUCATION

### UNIVERSITY OF WATERLOO

BCS IN HONOURS COMPUTER

SCIENCE

Expected May 2020 | Waterloo, ON

cGPA: 94%

- President's Scholarship of Distinction
- Software Engineering Entrance Scholarship

### MARC GARNEAU COLLEGIATE INSTITUTE

TALENTED OFFERINGS FOR PROGRAMS IN THE SCIENCES

Grad. June 2015 | Toronto, ON

cGPA: 96%

- Ananta & Shireen Computer Science Fellowship Award

## COURSEWORK

### UNDERGRADUATE

Programming Principles in C

Data Abstraction/Implementation in C++

### MOOC

Data Structures and Algorithms (Coursera)

Machine Learning (Coursera)

## EXPERIENCE

### SHOPIFY | DEVELOPER INTERN (SHIPPING TEAM)

May 2016 - August 2016 | Ottawa, ON

- Introduced an ETL framework for polling tracking data from carriers for shipments, improving testability and maintainability
- Implemented USPS tracking via SFTP with parallelized jobs, decreasing upper bound of real-time tracking updates from a few hours to 15 minutes
- Integrated shipment options into our shipping micro-service with abstraction for multiple providers, allowing merchants to purchase add-ons from multiple parties for their shipping labels
- Identified and eliminated a production bug involving stale cache keys that caused incorrect shipping rates to display

## PROJECTS

### STUDBUDS (STUDBUDS.COM) | FOUNDER + LEAD DEVELOPER

June 2015 - present

University of Waterloo peer tutoring marketplace with 150+ registered students. Built with Rails, Redis and Sidekiq.

- Implemented a background payment flow with the Stripe API that handles automatic payment authorization, captures, and refunds using Sidekiq
- Integrated live chat and notifications that hooks into user events, such as lesson creation and cancellation, over WebSockets
- Provisioned cron jobs to send email notifications for unread messages and updates on a separate worker node
- Utilized AJAX for dynamic client-side rendering to simulate a single-page dashboard with proper JavaScript memory and reachability management
- Leveraged CloudFront and S3 for static asset caching and distribution

### NEWS\_SCRAPER | RUBY GEM

August 2016 - present

An ETL web scraper that aggregates news stories. Written in Ruby.

- Abstracted the scraping process into an ETL framework that only extracts relevant fields from articles, such as title and content, for a given news query
- Implemented a configuration architecture that uses YAML-specified grep patterns based on host domain to scrape news articles from multiple sources
- Devised a command-line interface a user can use to add scrape patterns for additional news sites, simplifying the process of expanding the scraper to other news sites

### ANONYMEYES.CO | WINNER AT HACK THE NORTH 2015

September 2015

Anonymeyes is a public feed where users can anonymously post videos that are instantaneously uploaded. Built with Rails and AngularJS.

- Implemented a Rails backend that receives MP4 metadata, such as location and time, and pushes updates to the web client via WebSockets
- Integrated a live dashboard on top of AngularJS that displays a feed along with Google Maps markers for all incoming video streams