

# Richard Wu

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## SKILLS

### PROGRAMMING

Over 4000 lines each:

Rails • Ruby • JavaScript • HTML •  
CSS/SCSS • Vim

Over 1000 lines each:

C • C++ • Java • Android

Familiar:

Python • MeteorJS • AngularJS • Bash •  
AWS • SQL • Postgres • MongoDB • Git  
• MATLAB

## 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

- Ananta & Shireen Computer Science Fellowship Award

## COURSEWORK

### UNDERGRADUATE

Programming Principles in C

Data Abstraction/Implementation in C++

### MOOC

Data Structures and Algorithms  
(Coursera)

## PROJECTS

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

June 2015 – present | Waterloo, ON

StudBuds is a university peer tutoring platform that makes finding and managing tutoring sessions a breeze (part of Communitech's Startup Services Group).

- Engineered and developed a highly-scalable Rails infrastructure with an efficient RDBMS design and REST API endpoints for future expansion
- Implemented automatic payment handling system within Resque scheduler and Redis to provide a hassle-free user experience
- Designed the entire site's UI/UX for ease-of-use and mobile responsiveness
- Constructed custom JS libraries for chat and notifications on top of WebSockets for low-latency duplex communication
- Deployed onto an AWS Elastic Beanstalk environment

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

September 2015 | Waterloo, ON

Anonymeyes is a public video forum where users can anonymously post videos of police harassment and civil unrest incidents for public scrutiny.

- Implemented Rails backend to receive MP4 metadata from a Java-based video processing server with HTTP endpoints to update front-end client
- Achieved live GUI updates by configuring WebSockets to channel video metadata to AngularJS client, effectively reducing wait time by 1 second
- Synchronized Google Maps marker updates with new video notifications within JS, improving UX experience

### KIDKEEPER | BEST INTEL EDISON HACK AT TECH RETREAT 2015

August 2015 | Waterloo, ON

Life vest equipped with sensors to monitor a child's environment.

- Implemented Rails stack to display live sensor data from the Intel Edison using short-polling, achieving <0.5 seconds delay
- Configured communication on the Intel Edison to stream sensor input data via WiFi to Rails server, allowing for GUI updates on iOS and web

## EXPERIENCE

### INTERWARE SYSTEMS | TECHNICAL INTERN

May 2015 - August 2015 | Toronto, ON

- Refactored Android UI code for a prescription app with custom object-oriented View widgets, improving maintainability and readability
- Migrated and logged over 300GB of files from client's NAS devices to OneDrive with shell scripts, allowing for centralized cloud retrieval
- Maintained a 30-minute recovery time objective for in-office IT disruptions by troubleshooting network and workstation issues

## AWARDS

2014/2015	top 125/6000	Canadian Open Mathematics Challenge
2013	6th/6000	Canadian Senior Mathematics Contest