

# ROBERT XU

🏠 robxu.me

☎ 415 813 8565

✉ rx@robxu.me

in /robert-xu

🌐 /robertycxu

## SKILL SET

**Languages:** Java, C++, JavaScript (ES6), Ruby, Python, Golang, Elm, HTML/CSS

**Technologies:** Git, SQL, Node, Rails, Flask, React, Redux, Elasticsearch, Android, OpenCV, scikit-learn

**Infrastructure:** Docker, Vagrant, AWS, Kubernetes, CircleCI, Bash, Zsh, Vim, tmux

## EXPERIENCE

**Square** Software Engineer Intern, Caviar, San Francisco

Sep 2018 - present

- Built fraud-detection data pipeline between Python and Ruby microservices to prevent location spoofing and automated ability to disable fraudulent users; reduced fraud instances by 32%
- Spearheaded design for data aggregation Flask microservice used to curate machine learning datasets
- Constructed real-time order heatmaps using Kernel Density Estimation and Cross-Validation with scikit-learn

**Globality** Software Engineer Intern, Menlo Park

Jan 2018 - Apr 2018

- Developed global user presence capabilities using Pusher event streams with Python, GraphQL, Node, CircleCI
- Created rich text editor with React/Redux and Apollo capable of saving editor state and preserving formatting from other rich text sources; supports lists, decorators, undo/redo, and debounces data validations for efficiency
- Designed diagnostic tool for determining user permissions across API endpoints in Python microservices

**Jewlr** Full-Stack Developer Intern, Toronto

Apr 2017 - Aug 2017

- Built Content Management System with authentication for product, sales data using Rails, Elasticsearch, and deployed with Docker, AWS
- Led effort to break up product data into separate service; administered corresponding ETL pipeline and API model
- Increased data import speeds by 50% through optimizing rake task, supporting company expansion into the UK
- Architected QR encoded Ruby state machine, increasing production process speeds by 75% at fulfillment centers

## RESEARCH

**University of Waterloo** Research Assistant, HCL Lab

Apr 2018 - Aug 2018

- Authored optical flow detection programs in C++ and Java (android) to discern unique permutations of finger trace patterns in a constrained space using OpenCV; developed gesture based mobile solutions for the visually impaired

**MIT** Research Assistant, Remote

Jul 2015 - Aug 2015

- Enhanced pattern recognition program that predicts synthesis of novel materials using data from materials science papers; wrote script to encode papers into Python dictionaries forming directed graphs

## PROJECTS

**Extreme Donkeys:** Multiplayer online web game built on React, Flask, Socket.IO event streaming

**Dashboard:** Team collaboration web-app built on Rails, React, MySQL that allows users to join a team or create a personal dashboard

**Internet Thoughts:** Sentiment analysis web-engine built on Node, Twitter API that uses a NLP algorithm to return percent positivity and negativity Twitter users associate with search query

**Speakr:** Android app built on Java that analyses real-time speech data to generate guidelines for improvement

**Shooter Pong:** Browser based Pong game and corresponding AI built with JavaScript and HowlerJS (audio)

## EDUCATION

**BCS Computer Science in Data Science, University of Waterloo**

Sep 2016 - Jun 2020

- Received President's Scholarship of Distinction and Ret'iree's Scholarship

**Certified Oracle Java SE 8 Programmer**

Aug 2016