ROBERT XU

SOFTWARE ENGINEER

robxu.me   647 983 1888   rx@robxu.me   in /robert-xu   /robertycxu

SKILL SET

- **Languages:** Java, C++, JavaScript (ES6), Ruby, Python, Golang, HTML/CSS
  Technologies: Git, SQL, Node, Rails, Flask, React, Redux, GraphQL, Elasticsearch, Android, OpenCV
  Infrastructure: Docker, Vagrant, AWS, Kubernetes, CircleCI, Vim, Bash

EXPERIENCE

Software Engineer Intern | Square, San Francisco   Sep 2018 - present
- Working on the Courier/Operations team in the Caviar division to develop server-side technologies for **courier job and delivery routing** using Ruby, Python, and PostgreSQL
- Built ETL pipeline for real-time, demand based, delivery pricing in ML Python microservice
- Created ability to batch courier jobs in order fulfillments microservice and exposed API endpoint for service-service communication

Software Engineer Intern | Globality, Menlo Park   Jan 2018 - Apr 2018
Series C startup backed by Al Gore and Sheryl Sandberg building an AI powered B2B marketplace
- Worked with Python microservice architecture in developing REST API endpoints for data archival and data pipelining; created diagnostic tool for determining health of API endpoints and user permissions
- **Developed global user presence capabilities using Pub/Sub pattern**, passing data through GraphQL gateway layer built on Node to and from RTC microservice; orchestrated corresponding CircleCI build workflows
- **Created and open-sourced html-snipper** (used for AI generated reactive questions), a JavaScript micro-library for replicating highlighted HTML through generating an augmented parse tree of DOM nodes

Full-Stack Developer Intern | Jewlr, Toronto   Apr 2017 - Aug 2017
- **Built CMS to manage and centralize product, sales data** with Rails, MySQL and deployed with Docker, AWS EC2. Implemented authentication and a custom Elasticsearch search engine; exposed backend REST API
- **Created ETL pipeline for data import/export between various data warehouses**, wrote rake task that increased import speeds by 50%, supporting company expansion into the EU and UK
- Implemented Ruby state machine to increase production process speeds by 75% and created production data tracking and analytics in Rails web app

RESEARCH

Undergraduate Research Assistant | UWaterloo, HCI Lab   Apr 2018 - Aug 2018
- Worked under Prof. Dan Vogel in the Human-Computer Interaction Lab to develop gesture based, QR code scanning solutions for the visually impaired
- **Built optical flow detection programs in C++ and Java (android)** to discern unique permutations of finger trace patterns in a constrained space using OpenCV

Research Assistant | MIT, Remote   July 2015 - Aug 2015
- Enhanced Python-based, 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

Dashboard | Aug 2017
- Created team collaboration web-app with Rails, React, MySQL that allows users to join a team or create a personal dashboard; employed a many-many relationship between Users and Teams

Internet Thoughts | YHack 2016
- Used Node, Twitter API to build a sentiment analysis web-engine that returns how positive or negative the internet thinks about a topic
- Fed NLP algorithm with text corpus data to return percentage positivity and negativity associated with search query

AWARDS

- **Certified Oracle Java SE 8 Programmer** | Aug 2016
  DECA Internationals Finalist, Entrepreneurship Category | May 2016
  Bronze medal, Canadian National Science Fair | Apr 2015

EDUCATION

BCS Computer Science (Data Science), University of Waterloo | 2016 - present
- Received President's Scholarship of Distinction and Retiree's Scholarship