ROBERT XU

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SKILL SET

Languages: Java, C++, JavaScript (ES6), Ruby, Python, Golang, Elm, HTML/CSS
Technologies: Git, SQL, Node, Rails, Flask, React, Redux, GraphQL, Elasticsearch, Android, OpenCV, Socket.IO
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
- Wrote algorithm for discovering restaurant hotspots based on supply/demand data to generate dynamic heatmaps

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, administering corresponding ETL pipeline and API model
- Optimized data import rake task, increasing import speeds by 50%, supporting company expansion into the EU and 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; developing gesture based mobile solutions for the visually impaired

MIT Research Assistant, Remote — July 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 with added features and AI built with JavaScript and HowlerJS (audio)

EDUCATION

BCS Computer Science in Data Science, University of Waterloo — Sep 2016 - present

- Received President's Scholarship of Distinction and Retiree's Scholarship

Certified Oracle Java SE 8 Programmer — Aug 2016