

Dominic Kuang

software engineer

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EDUCATION

University of British Columbia

2013 – 2018

- Bachelor of Science, Computer Science, with distinction

WORK EXPERIENCE

University of British Columbia / Research Assistant

MAY – AUG 2017

- Developed AISpace2, a web-based visualization tool written in TypeScript and Python that enables undergraduate students to step through and visualize artificial intelligence concepts interactively, all while being able to edit the source code
- Researched technologies and performed user studies under professor's supervision to transform and improve upon the existing Java-based AISpace
- Created visualizations and improved code samples for the textbook [Artificial Intelligence 2E: Foundations of Computational Agents](#)

TTT Studios / Software Engineer Intern

SEP 2015 – SEP 2016

City of Surrey Web App

- Developed a series of single-page applications with JavaScript that modernized city's self-service websites, simplifying tasks for residents such as paying for parking tickets
- Collaborated with city to adhere to stringent code standards and QA before launching to the city's half-a-million residents to ensure a reliable experience

myShowAndSell for iOS / track real estate and analyze potential buyer feedback

- Engineered a dynamic, versioned quiz system that retrieved questions with modifiable attributes from an online database and created an interactive quiz on the fly
- Generated rich PDF reports with custom-designed graphs and charts by aggregating buyer feedback to communicate selling status to realtors using Swift with Core Graphics

Waver for Web / location-based messaging for communities

- Researched and set up a modern front-end web stack with JavaScript, Webpack, React, and Redux to facilitate efficient development of a web version of an existing mobile app
- Practiced behaviour-driven development and continuous integration by writing an extensive suite of UI and functional tests that significantly reduced regressions
- Created a rich messaging system that allowed users to post images and audio snippets using modern web technologies that synchronized with mobile apps in real-time

OPEN SOURCE CONTRIBUTIONS

ReviewBoard / online code reviews

FALL 2016

- Simplified creation and synchronization of code reviews from a manual, command line process to a fully automated one by integrating GitHub pull requests with a Python and Django backend, thereby reducing the learning curve and management time
- Transformed vague feature request into a design document, which aided in communicating design decisions and progress with maintainers

SCHOOL PROJECTS

Blockchain-based Art Canvas

WINTER 2018

- Used Go to implement a distributed blockchain based on Bitcoin's original paper
- Allowed users to mine "ink" to draw on a distributed canvas, utilizing proof-of-work, hashing and asymmetric cryptography to prevent attacks such as double-spending
- Deployed application on Azure across multiple data centers to test the blockchain's integrity in the face of network conditions and adversarial miners

Crime Watcher / analyze local crimes

SPRING 2015

- Optimized loading of tens of thousands of map markers using a quadtree that lead to an order of magnitude performance increase
- Created an algorithm that ranked routes based on the path's proximity to crime using Java so users could find the safest route to their destination
- Designed a data pipeline to process and combine data from multiple raw data sources to obtain locations of crime