

Brian Tran

3A Computer Engineering

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// SKILLS

Languages

JavaScript, Python, SQL, C#, C++,
HTML, CSS

Libraries

Node.js, Express, jQuery, three.js,
React, Bootstrap, Polymer, Jasmine,
Selenium

Tools

Git, Bash, npm, Karma, WebRTC,
WebSockets, AWS, Visual Studio,
Webstorm

Miscellaneous

Agile, Scrum, Object-Oriented
Programming, Windows, Linux,
macOS

// EDUCATION

Computer Engineering

University of Waterloo, 2020

Algorithms and Data Structures
Operating Systems
Digital Computers
Embedded Systems
Compilers

// AWARDS

Dean's Honours List, Winter 2016
President's Scholarship of Distinction
Top Ontario Scholar, DPCDSB
3rd Place, Gamemaker Contest
Ontario Volunteer Service Award

// LEADERSHIP

Orientation Week Leader
Technology Lead for CUTC 2017
PLASP Child Care Volunteer, 5 years

// INTERESTS

Gaming, Photography, Singing,
Fitness, Psychology, Computer
Graphics, Computer Vision, Data
Analysis

// EXPERIENCE

Software Developer, *National Instruments*

September 2017 - December 2017

- Developed features on a scrum team for a large-scale circuit simulation web app
- Optimized memory usage by determining identical datasets and avoiding duplication of data
- Collaborated with a mentor to introduce Selenium testing for Multisim Live
- Improved Multisim performance with in-memory and persistent disk caches
- Created tools to stream and view real-time signal data from electronic instruments
- Designed a controller to handle instrument states and push status updates to all peers

Full-Stack Web Developer, *VIQ Solutions*

January 2017 - April 2017

- Built a RESTful Web API used to control Windows video recording software from a mobile app
- Created a custom MPEG-DASH streaming video player with JavaScript Media Source Extensions to reduce bandwidth costs and improve security
- Developed features across the full stack of an education portal using .NET and SQL Server
- Designed and implemented a modified back-end infrastructure for an existing audio/video product ecosystem
- Demonstrated products to potential clients with the sales team to help secure high-value contracts worth over \$400k

Web Developer, *Intellisoft Development Inc.*

May 2016 - August 2016

- Rebuilt a college's course search tool using AJAX and caching to return results over twice as fast
- Implemented custom user analytics on the course search tool to gather detailed user data from over 1 million visits per year
- Collaborated with teammates and stakeholders to implement a site-wide shopping cart for adding and comparing courses
- Stored and analyzed page visit data to recommend popular related courses to users

// PROJECTS

threeRTC, *3D game with real-time communication*

- Developed a 3D game in the browser that uses a phone as a motion controller
- Communicated real-time gyroscope data from the phone to the desktop browser with WebRTC
- Calculated motion of 3D objects and implemented collisions using three.js and cannon.js

Cartastic, *Object classification*

- Teamed up at MSFTacks to build an app that adds food items to a cart and provides recipes
- Identified food items from photos using Microsoft's Computer Vision API

Pic Processor, *Image processing*

- Built a Windows desktop app that allows users to load, manipulate, and save images
- Performed convolutions between a kernel and an image to apply effects such as darken, scale, flip, and blur

Chocolate Sweeper, *Minesweeper-inspired game*

- Applied OOP principles to organize object hierarchies and functions in a Minesweeper game
- Wrote a breadth-first search algorithm to reveal adjacent tiles upon user click