Brian Tran

3A Computer Engineering

Email: b28tran@edu.uwaterloo.ca
LinkedIn: linkedin.com/in/tranbrian10
GitHub: github.com/tranbrian10

// 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 MSFTHacks 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