

# Isaac Watt

 <http://isaacwatt.me>

 IsaacWatt

 isaacwatt@icloud.com

## SKILLS

**Languages:** C/C++ • JavaScript • Swift • Lua • SQL • R

**Technologies:** CGAL • Node.js • React • Unity • Docker

## EDUCATION

**UNIVERSITY OF WATERLOO**  SEPTEMBER 2016 - APRIL 2021

Bachelor of Mathematics | Computer Science & Statistics

Impacting Courses: Algorithms • Numerical Computation ([MATLAB](#)) • Operating Systems ([C](#))  
Object Oriented Programming ([C++](#)) • Mathematical Statistics ([R](#))

## EXPERIENCE

**UNIVERSITY OF WATERLOO**  UNDERGRAD RESEARCH ASSISTANT Winter 2020

- Working under the supervision of professor Lesley Istead on research involving stylized stereoscopic 3D line drawings

**SAFE SOFTWARE**  SOFTWARE DEVELOPER Fall 2019 | Surrey, BC

- Updated and implemented algorithms in the FME [Geometry Engine](#) (using [C++](#))
- Extended proprietary geometry validation algorithm to support the repair of degenerate [triangle strip](#) and [triangle fan](#) data
- Rewrote the [sector generator](#) algorithm, adding support for overlapping sectors, increasing sector coverage accuracy by over **15%**
- Implemented polyline simplification using the Douglas-Peucker algorithm and extended it to interpolate by arc segments, decimating curves by an additional **10%**

**CTRL V**  SOFTWARE DEVELOPER Winter 2019 | Waterloo, ON

- Built the [Account Ctrl](#) web app and a customer account API using Node, React, and PostgreSQL, allowing over **14,000** customers to view gameplay data and update waivers
- Developed a Unity program in C# leveraging the Photon engine, allowing in-game voice communication between players
- Wrote an internal payment processing Node package using the Elavon API, allowing customers to sign up for VR tournaments (over **200** transactions)

**SIMPLISTICS**  SOFTWARE DEVELOPER Summer 2018 | Kitchener, ON

- Built an internal Gift Card plugin in PHP using the WooCommerce API, generating over **\$1000** on an Ecommerce website in the first month it was active
- Created a User Management plugin using the Slack and Mailchimp APIs, to support communications for over **1500** users on the front and back-end of a social platform
- Designed and implemented a MySQL database schema and admin panel for a web app which organized the relationships between wards, officers, and schools in Toronto

## PROJECTS

**QUICK CODE**  NODE.JS, REACT.JS, PYTHON, AZURE

- Built a Web IDE which converted spoken pseudo code into JavaScript leveraging [Microsoft Azure's](#) web and cognitive services
- Won the [Best Voice Biometrics Hack](#) and the Wolfram Award at nwHacks 2019

**ORB GAME**  LUA, Box2D

- Created an orb launching game using [Lua](#) with the Gideros mobile environment
- Used the [Box2D](#) engine to implement the physics and collision logic