

## EDUCATION

### The University of Western Ontario

Sept 2017 - April 2021

Bachelor of Engineering Science, Software Engineering

- Dean's Honors List in 2018 and 2019
- The Western Scholarship of Distinction and TD Scholarship for Engineering in 2017

## SKILLS

<b>Languages</b>	<b>Proficient:</b> Java and C++   <b>Competent:</b> Haskell, GoLang, HTML/CSS, Python, C#, Arduino, Swift, and JavaScript   <b>Familiar:</b> C, Elm, LaTeX, MATLAB, JSON, JavaDB, and SQL
<b>IDEs</b>	Eclipse, Visual Studio, Unity, XCode, Android Studio, IntelliJ, Atom, and Sublime Text
<b>Tools</b>	Microsoft Office, Git, SVN, SceneBuilder, OnShape, & Terminal.
<b>Systems</b>	Windows, Mac OS, Linux (Ubuntu)

## WORK EXPERIENCE

### Software Developer (Co-op), IBM and McMaster University

May 2019 - Aug 2019

- Researched Code Generation for Cryptographic Kernels with graduate students to understand, document, test, and debug high-level descriptions of Elliptic Curve Cryptographic algorithms, and helped prepare these aspects of the Coconut tool for publication as an open-source project.
- Parallelized the scalar multiplication operation of Elliptic curves; increased the efficiency by 40%.
- Used multithreading and atomic variables to schedule the scalar multiplication operation.
- Programmed the instructions using Haskell and GoLang. Wrote research papers using LaTeX.

### Research Assistant (Co-op), IBM And McMaster University

July 2018 - Aug 2018

- Proved the feasibility of a proposal to double the number of basic math functions that a computer can calculate per second for the IBM Power 9 processor.
- Helped create hardware instructions to accelerate table-driven mathematical computation of reciprocal square, cube, fourth root and their reciprocal functions, and the evaluation of exponential and logarithmic families of functions. Published an *award-winning* paper and a poster to CASCON 2018 (<https://bit.ly/2Zo14Bk>).
- Programmed the instructions using C and Haskell. Used SVN and GitHub for version control.

## PROJECTS

### YAP Shooter (SHUMP), Unity, Visual Studio, C#, GitHub

Jan 2019 - April 2019

- Created scripts in C# to handle movement, player, enemies, spawn manager, power-ups, etc.
- Applied tags, layers, physics, collision detection to trigger events and handle game flow.
- Implemented a main menu and sound effects using SFX to enhance gaming experience.
- Collaborated with 2 classmates in an Agile environment.

### Drive Alert (SheHacks), XCode, Swift, GitHub, ARKit, SceneKit

March 2019

- Programmed a mobile application (iOS) that tracks the driver's eyes while driving and gives an alert if they are closed for more than 3 seconds. Used ARKit for face tracking and SceneKit for the UI.
- Learned iOS development and demonstrated valuable skills in teamwork, leadership, and time management to complete the project in 12 hours.
- *Won Best Over-All Hack*; [devpost.com/software/drivealert-80wnxk](https://devpost.com/software/drivealert-80wnxk)

### iTravel, IntelliJ, Scene builder, Java, Java DB, and SQL

Sept 2018 - Dec 2018

- Developed a software for a travel agency to manage airlines, flights, customers, and employees.
- Applied MVC architecture to design and create airline flight and employee software.
- Updated a premade database using Java DB to hold flight and employee information.
- Constructed a basic GUI with SceneBuilder to allow user input and navigation.
- Made UML use-case, class, and sequence diagrams.