[redacted] [redacted]
ARE
[redacted], [redacted] Ontario, [redacted], Canada
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## Experience

### Computer Science Co-op [redacted]

Software Developer & Teacher Assistant *Oct.–Jan. 2019*

- Designed and implemented a classroom management platform that features a quest system structured in a dependency graph, LaTeX and markdown rendering, and student file and quiz submission
- Developed, from scratch, a robust and elegant data validation library in Python which seamlessly integrates with the Flask microservice framework
- Optimised lesson graph traversal from exponential to linear time by implementing, from scratch, a fast data structure that stores direct and indirection connections
- Quickly and effectively developed an alternative installation process for MonoGame that is compatible on the [redacted] [redacted] computers by creating a custom Visual Studio project template leveraging the NuGet Package Manager
- Assisted computer science students in debugging logic, syntax, and implementation issues through trial and error, black-box testing, and debugging tools

## Personal Projects

### [redacted] Python / Flask / React / Redux

An online contest judge that automatically grades program submissions *Apr.–May 2018*

- Created a Flask backend server with RESTful endpoints and functionality to support user authentication and resource management
- Implemented a single-page frontend with React that supports LaTeX and markdown rendering for problem descriptions

### [redacted] C# / Unity

3D top-down rougelike featuring card-based combat *Jan. 2018*

- Developed a smooth camera system that accurately and smoothly follows the player as they traverse the dungeon
- Designed an editor tool to create game content (i.e. cards, dungeons, rooms, etc...) using Unity scriptable objects and the editor scripting API

### [redacted] C# / Unity

Procedural sandbox 2D sidescroller game *Feb.–Jun. 2018*

- Implemented a procedural terrain generation algorithm using stochastic functions to simulate terrain features
- Optimised the chunk loading algorithm by pooling objects to reduce memory allocations and garbage collection calls
- Efficiently integrated the Unity physics system into a large-scale world consisting of a myriad of game objects by employing distance-based component caching

### [redacted] C++ / OpenGL

3D game engine *Dec. 2017*

- Implemented Blinn-Phong lighting and Physically Based Rendering

### [redacted] C# / WPF

Live chat application utilising a variety of cryptography algorithms *Sep.–Nov. 2017*

- Implemented the Data Encryption Standard (DES), Rivest–Shamir–Adleman (RSA), and Caesar cipher cryptography algorithms in order to secure messages before transmitting them to the server
- Developed a clean and elegant client design using the Windows Presentation Framework (WPF)

## Competitions

- **Participant**, NASA Space Apps, Toronto *Oct. 2018*
- **92nd percentile**, ECOO Programming Contest *Mar. 2018*
- **86th percentile**, Canadian Computing Contest, Senior level *Feb. 2018*
- **90th percentile**, ECOO Programming Contest *Apr. 2017*
- **85th percentile**, Canadian Computing Contest, Senior level *Feb. 2017*

# Extracurricular Activities

### Computer Science Club

[redacted]

President *2017–Present*

- Organise the administrative tasks by outlining budgetary information, planning meetings, and managing dates
- Develop educational material and coursework such as problem sets and reading material
- Teach lessons on various beginner and advanced concepts such as asymptotic notation, data structures, and graph theory
- Contest writing skill development by providing tutoring, help, and guidance
- Author contests of various difficulty to better member in competitive programming
- Maintain club website and online grader ([redacted])

### Hour of Code

[redacted]

Volunteer *Dec. 2017*

- Speaker at the Hour of Code panel
- Operating the Hour of Code programming stations

# Education

[redacted]

[redacted] Ontario *Sep. 2016–Present*

- Currently enrolled in Grade 12 university level Computer Science course
- Grade 11 Computer Science Excellence Award (Finished with 100%)
- Grade 10 Science Merit Award (Finished with 90%)