

ALAN LIU

2B Honours Computer Science

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SKILLS

- Languages: Bash, C, C++, Python, Racket
- Tools: Git, Linux, macOS, Vim, Visual Studio

EDUCATION

University of Waterloo, Waterloo, ON

Sept. 2018 - Current

Candidate for Bachelor of Computer Science, Co-operative Program

- Cumulative Average: 94.3%; Faculty Average: 94.4%

EMPLOYMENT

Imagine Communications, QA Developer, Waterloo, ON

Sept. 2019 - Dec. 2019

- Designed and implemented end-to-end flow for testing play-out of growing video clips using Python
- Implemented a Python tool to ease the process of test result validation
- Decreased the duration of static play-out test suite by 50% through optimizing channel configuration processes
- Refactored the FTP test suite to adhere to OOP design principles to improve extensibility and maintainability

PROJECTS

Sorcery | C++

July 2019

- Designed and implemented a strategy card game with command line I/O and graphic display using MVC design pattern
- Implemented the board and abstract card classes with decorator and strategy design patterns to allow cards with various abilities to be easily added into the game
- Utilized the visitor design pattern to encapsulate the logic of deploying different card types in the board class so that new card types can be easily added into the game

Sudoku Solver | C

Apr. 2019

- Designed and implemented an efficient backtracking Sudoku solver
- Produced an efficient repeated digit checker in $O(n)$ time
- Modularized the code to achieve a maintainable, reusable design

2048 Game | Python

May 2018

- Designed and implemented a version of the popular game 2048
- Minimized code complexity by selecting appropriate data structure for different tasks

AWARDS

Governor General's Bronze Academic Medal, Governor General of Canada

Dec. 2018

- Awarded for having the highest grade point average from a Canadian high school

Top 20% in Euclid Mathematics Contest, University of Waterloo

May 2018

ACTIVITIES

FIRST Robotics Club, Team Member

Sept. 2014 - Jun. 2015

- Traveled to Calgary with team members to compete in the 2015 FIRST Robotics Competition
- Assisted in the design and construction of the robot, and participated in fundraisers