ALAN LIU

3A Honours Computer Science

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SUMMARY OF QUALIFICATIONS

- Languages: C++, Python, Java, Bash, C, HTML, CSS, Racket
- Tools: Git, Linux, macOS, PyCharm, Vim, Visual Studio Code
- Experienced working with Agile methodology as a QA developer of a test automation Scrum team

EDUCATION

University of Waterloo, *Waterloo, ON* Sept. 2018 - Current

Candidate for Bachelor of Computer Science, Co-operative Program

- Cumulative Average: 94.4%; Faculty Average: 94.5%

EMPLOYMENT

Huawei Technologies, Junior Software Engineer, *Markham, ON* May 2020 - Aug. 2020

- Extended the SPIRV dialect in MLIR, an open source compiler framework written in C++, by implementing various SPIRV data types and instructions for a proof of concept frontend for Huawei's compiler
- Prototyped a basic conversion path from SPIRV dialect to LLVM IR dialect in MLIR to achieve end to end compilation with MLIR as the front end
- Wrote Python and Bash scripts to run and collect test results for end to end compilation through MLIR

Imagine Communication, 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
- Decreased the duration of static play-out test suite by 50% through optimizing channel configuration processes

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
- Modularized the code to achieve a maintainable, reusable design

2048 Game | Python May 2018

- Designed and implemented a version of the popular game 2048

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

ACTIVITIES

FIRST Robotics Club, Team Member Sept. 2014 - Jun. 2015

- Traveled to Calgary with team members to compete in the 2015 FIRST Robotics Competition