

Lu Chen

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EDUCATION

Queen's University

4th year, Honours Bachelor of Computing [CGPA : 3.81/4.3]

Kingston, ON

Aug. 2019 – present

- Specialization in Computer Science, Option in Security
- Queen's Dean's Honours List

EXPERIENCE

Undergraduate Research Assistant

Queen's University

May 2022 – Present

Kingston, ON

- This is an exploration of translating the UML to Yang, we are building a tool for Telus to parse the XML format of the UML class diagram, and analysis the content to render the Yang language.
- We frequently meet-up with Telus and listen to their needs, and also present our progress on the work and some other discoveries.
- Please visit following link for more details: [GitHub Link](#)

PROJECTS

TCP/IP Implementation | C++, CMake, Bash, Virtual-Box

[GitHub](#) 

- Reinvented a functioning TCP/IP protocol that can send and receive data to real server
- Use CMake as a buiding tool, and use ctest to test the program, have a deep understanding of unit testing and integral testing
- Solid understanding in TCP/IP protocol, like reassembling out-of-order packets, detecting network congestion, re-sending missing data and acknowledging received data.

Virtual Machine | C++, CMake

[GitHub](#) 

- Use C++ to build a stack-based virtual machine that reads s-expression, compiles it to byte-code, and finally, executes by the interpreter.
- Independently design a virtual machine with parsing, compilation, garbage collection and interpretation functions
- Implement the essence of the language features, the scope of variables, stack-frame for function and lambda expression; these experiences helped me to be less confused in programming.

Smart Refrigerator UI | HTML/CSS, JavaScript, React.js, Node.js

[GitHub](#)  [Web](#) 

- Human-Computer interaction course project, developed a UI for smart refrigerator
- Broke down the design into individual components and skilled use of React hooks to make UI animations
- Used the npm package Use-sound to add sound effect to website

MiniDB | C++, CMake, Git Action

[GitHub](#) 

- Build a database in C++ that stores the data into .db files and use B-tree as an index, and it will split the leaf node when it is full.
- Have better understanding of Database system, keeping the data persistent, and how to index the record so they can be found more quickly

TECHNICAL SKILLS

Languages: C/C++, Java, Python, JavaScript, Rust, SQL (Postgre, mySQL), HTML/CSS, Bash

Frameworks: React.js, Express.js, Flask, Node.js

Developer Tools: Git, Docker, Virtual-Box, VS Code, IntelliJ, WebStorm, NPM, Pip, Emacs