

Yi Hong Liu

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Work Experience

PointClickCare | Software Engineer

Future stuff

TD Securities | Global Equity Derivatives Associate

Migrated interest rate curve data aggregation from Excel to Python, **streamlining workflow**, resulting in a **10x speedup** of curve generation process.

Parsed client requests into format consumable by internal API's with Python, **minimizing manual work** for trader.

Leveraged Python and SQL to automate various daily tasks, **enabling higher productivity** on other tasks.

University of Waterloo | Undergraduate TA

Designed and developed **Python** test cases for weekly C++ quizzes and assignments.

Iterated over several attendance system designs to develop a robust system utilizing **Android barcode** scanning and **ExpressJS**.

Tutored inexperienced students on C++, memory management and pointer operations.

Axsium Group | Solutions Developer

Sole developer of regression test suite – significantly **improved reliability** of Ruby Selenium test suite, reducing false failures from 900 to 150.

Worked with app developers to ensure tests match application features.

Projects

Ai-MIDI (<https://github.com/MustafaMuhammad2000/Ai-Lofi>)

Architected **Tensorflow Keras** model with word embedding and bidirectional GRU's to generate new MIDI songs.

Evolution Simulator (<https://github.com/lyihongl/evosim>)

Use genetic algorithms to simulate predator prey behavior in C++ **SFML**.

University of Waterloo Formula SAE

Revised design of power supply board to prevent induction motor from triggering fuse alarm using Autodesk Eagle.

Manufactured and tested power supply board to ensure correct behavior of PTC resettable fuses.

Education



UNIVERSITY OF
WATERLOO | FACULTY OF
ENGINEERING

University of Waterloo

Computer Engineering Honors

2018-2023

Technical Skills

- C/C++
- OpenGL
- Python
- Ruby
- Java
- SQL
- Golang
- Flask
- Excel (VBA)

Relevant Courses

Algorithms and Data Structures

- Abstract data types, algorithm analysis, sorting and searching

Systems Concurrency, C

- Sockets, multithreading, semaphores/mutex, synchronization patterns, async io

Digital Hardware

- Design and debug state machines in VHDL, RISC V assembly

Hobbies/Interests

- Skiing
- Muay Thai/MMA
- Cars