Yi-Hong Liu

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Technical Skills

Languages: C/C++, Python, Java, Golang, Javascript, Typescript, Haskell, SQL, Excel (VBA)

Tools: Keras, ReactJS, Java Springboot, Flask, Git, Linux

Work Experience

PointClickCare – Software Engineering Co-op — Jan 2021 – April 2021

- Developed fullstack applications for medical professionals using React Redux and Javaspring Boot.
- Ensured code correctness with JUnit, Enzyme, and React Testing Library tests.

TD Securities – Global Equity Derivatives Associate — May 2020 – Aug 2020

- Migrated interest curve data aggregation from Excel to Python, streamlining workflow, resulting in 10x speedup of curve generation process.
- Developed email parser in Python enabling rapid entry of client data into pricing models.
- Automated OTC sales receipt booking procedure using Python, Excel, and xlWings saving 30 min daily.

University of Waterloo – Undergraduate Teaching Assistant — Aug 2019 – Dec 2019

- Designed and developed Python test cases for weekly C++ quizzes and assignments.
- Utilized effective communication skills to tutor first year students in memory management, pointer operations, and simple algorithms.

Axsium Group – Solutions Developer — Jan 2019 – April 2019

- Sole developer of 3 regression test suites – significantly improved reliability of Ruby Selenium tests, reducing false failures from 900 to 150.
- Worked with web developers to ensure test cases match application features.

Projects and Activities

Ai-Lofi – Python, Keras — Nov 2020 – Present

- Architected TensorFlow Keras model with word embedding and bidirectional GRU's to generate new MIDIs.
- Utilized Docker, Tensorflow Cloud, and GCP Buckets to train on over 20 GBs of data.

Evolution Simulator – C++, SFML — Nov 2020 – Present

- Leveraged multithreading to simulate predator prey behavior.

Static Ray Tracer – Haskell — Jan 2021 – Present

- Leveraged vanilla Haskell to develop static ray tracer.

UW Formula Motorsports – SolidWorks, Autodesk Eagle — May 2019 – July 2020

- Updated power supply design to prevent inductor back voltages from triggering fuse alarm.
- Manufactured and tested (Oscilliscope, Arduino) power supply board to ensure correct fuse behaviour.

Education

University of Waterloo

Bachelors of Applied Science, Computer Engineering — 2018 – 2023

Relevant Courses

Algorithms and Data Structures (C++) – Abstract data types, algorithm analysis, searching and sorting

Systems Concurrency (C) – Sockets, multi threading, synchronization patterns, semaphores/mutex, async io

Digital Hardware (Risc V, VHDL) – Completed lab assignments in Risc V and VHDL with Intel Quartus Prime