DANIEL LI LIU

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EDUCATION

University of Toronto | Computer Engineering
September 2020 - April 2025

- **3.86 / 4.00 cGPA**

EXPERIENCE

Intel Corporation | *Software Engineer* (May 2023 - Currently)

- Developing a testing infrastructure for customers to use for verification of the *Open FPGA Stack Project*
- Improved the automation of the yearly interview process which reduced interview scheduling times by 2x

University of Toronto | *Teaching Assisstant* (January 2023 - April 2023)

- Computer Fundamentals (APS105): Introduce students to the C programming language, data types, loops, arrays, data structures, algorithms, heuristics

UoftHacks | *Frontend Engineer* (September 2022 - December 2022)

- Developed and maintained the frontend of the hackathon's website for 100+ visitors

iQua Research Group | *ML Researcher* (*May 2022 - August 2022)*

- Conducted 100+ experiments using reinforcement learning algorithms such as TD3 & A2C for machine learning models for **two** research papers
- Extended federated learning framework *Plato* to support reinforcement learning algorithms for clients
- Redesigned *Plato*'s loss functions, optimizers, learning schedulers, & models to use a factory design pattern

PUBLICATIONS

Lethe: Interference-Based Forgetting for Continual Learning Agents in Reinforcement Learning
Salma Emara, Baochun Li, Tim Zeyl, *Daniel Li Liu* (*Under review*)

Cascade: Curriculum Federated Reinforcement Learning with Interference Avoidance
Salma Emara, *Daniel Li Liu,* Baochun Li (*Under review*)

ENGINEERING PROJECTS

Reinforcement Algorithms in Federated Learning Framework Plato

- Extended research framework Plato to support reinforcement learning for clients
- Designed a custom model to support actor and critic models used in **TD3 & A2C**
- Created a customized trainer for both the **TD3 & A2C** algorithm that evaluates/saves average rewards for clients and the server
- Implemented a custom algorithm that communicates between the server & clients

GoTime - NewHacks Hackathon Project, 4th Place Winner

- Created and designed a web app using the Electron Framework, leveraging JavaScript, HTML/CSS, and Node.js.
- Optimized university student's schedules/time and class locations at the University of Toronto using Dijkstra's algorithm for an optimal path with C++

Project Links

AWARDS

Deans List (*2020-2022*)

Natural Sciences and Engineering Research Council of Canada's Undergraduate Student Research Award (*2022*)

TECHNICAL SKILLS

LANGUAGES

- C / C++ (*Expert*)
- Python (*Expert)*
- Java (*Prior Exp*)
- MATLAB (*Prior Exp)*
- JavaScript (*Prior Exp*)
- ARM Assembly (*Proficient*)

WEB DEVELOPMENT

- HTML / CSS (*Proficient*)
- Next.js (Prior Exp)

SOFTWARE

- Git
- GTK
- PyTorch

HARDWARE

- Verilog
- Quartus / Modelsim
- Breadboards
- DE1-SoC Boards

OTHER INDUSTRY KNOWLEDGE

- Artificial Intelligence
- Machine Learning
  - Reinforcement Learning
  - Continual Learning
  - Curriculum Learning