Isidor Kaplan

Education

Bachelor of Applied Science, Computer Engineering | University of Toronto

- **2019 - Present** Currently completing 2nd Year
- **4.0/4.0 cGPA** Cumulative Grade Point Average (3 terms)

Professional Experience

Software Developer Intern | Rocscience Inc | Summer 2021

- Incoming Software Developer Intern at Rocscience Inc

Academic Researcher | iQua Research Group | Summer 2020

- Helped to design and apply deep reinforcement learning algorithms under the supervision of Prof. Baochun Li within the context of networking problems, such as congestion control, edge computing and network-adaptive coding. (https://github.com/isidorjkaplan/DRL)

Engineering Projects

Processor Design Project | Final project - Computer Organization

- Designed a Verilog 16-bit, 8-register, interrupt-enabled processor.
- https://github.com/isidorjkaplan/ProcessorPublic

Engineering Design Team | Engineering Strategies and Practices II

- Led an engineering team to implement a Machine-Learning based solution for identifying faulty power-line insulators from images.
- https://tinyurl.com/metscoinsulators

Course AI Assignments | Course Project - Fall 2020, Winter 2020

- Implemented in C++ an AI to play an Atari-inspired game called Galaxy-Explorer. Used Machine Learning (Python) to tune the hyper-parameters of a powerful heuristic which was able to score 4th in the class.

Reversi AI | Course Project - Winter 2020

- Implemented an MCTS + Reinforcement Learning model in C to play the board game Reversi ranking within the top 5 out of 300+ students.

Minecraft Plugins | Personal Project - 2019

- Designed and implemented in Java a 300+ class, 27,000+ lines of code Minecraft Plugin. (https://github.com/isidorjkaplan/UltraPlugin)

Relevant Courses

- **Computer Fundamentals**: Introduction to C programming
- **Programming Fundamentals**: C++, Data Structures, Complexity
- **Digital Systems**: Digital Circuit Design. Lab focused. FPGA's and Verilog.
- **Computer Organization**: ARM A9 Assembly, Processor Design
- **Software Communication & Design**: Team Design Project - Google Maps.
- **Engineering Strategies and Practices I and II**: Engineering design process. Worked with a client in industry to solve a real-world problem.
- **Calculus I, II, III, Linear Algebra, Complex Analysis**: Math Courses

Contact

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Technical Skills

- C, C++, Python, Java
- ARM A9 Assembly
- Machine Learning
- Reinforcement Learning
- PyTorch
- Verilog
- Git
- MATLAB
- Linux Command Line

Awards

Deans List (2019-Present)

- All academic terms to date

Galaxy Explorer AI (Fall 2020)

- Top 5, course competition

First Year Fellowship (2020)

- Awarded prestigious fellowship to sponsor first year research during the summer.

In-Course Scholarship (2020)

- Was awarded a prestigious in-course scholarship for academic performance during 2019-20 school year.

Reversi AI (Winter 2020)

- Top 5, course competition

Board Proficiency (2019)

- Top grades in high school

Waterloo Competitions

Certificate of Distinction

- Canadian Computing Competition (2018,19)
- Euclid Math (2019)