

# 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

**Academic Researcher - Machine Learning** | iQua Research Group

- 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

**Engineering Design Team** | Engineering Strategies and Practices II

- Led an engineering team to design and implement a Machine-Learning based solution for identifying faulty power-line insulators from images (<https://tinyurl.com/metscoinsulators>)
- First student in history of the course (10+ years) to take initiative to locate an industry project and bring it to the course.

**Galaxy Explorer AI** | Course Project - Fall 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** (Enrolled): Assembly Programming
- **Software Communication & Design** (Enrolled): Team Design Project
- **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
- Machine Learning
- Reinforcement Learning
- PyTorch
- Git
- MATLAB
- Verilog

## Interpersonal Skills

- Initiative
- Leadership
- Project Management
- Communication
- Teamwork

## 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)