

# Isidor Kaplan

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## EDUCATION

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### University Of Toronto

Sept. 2019 – May 2024

*Bachelor of Applied Science in Computer Engineering*

*Toronto, ON*

- Obtained *4.0/4.0* Cumulative GPA and *96.1%* Cumulative Average
- Awarded *Top Student Award* from Dept of Electrical and Computer Engineering (2020-21 and 2021-22)
- Awarded Charles Edwin Trim (2021), BFMI Sesquicentennial Trust (2021), and In-Course (2020) *Scholarships*
- Selected for prestigious First-Year Summer *Fellowship* (2020)

## EXPERIENCE

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### Incoming Software Engineering Intern

June 2023 – August 2023

*Hudson River Trading*

*New York, NY*

### Computer Architect Intern

May 2022 – May 2023

*Intel*

*Toronto, ON*

- Design and Iterate on Intel high-performance FPGAs next-generation routing architecture
- Simulate and evaluate hypothetical FPGA architectures on large design suites
- Analyze large quantities of empirical data for meaningful trends and insights
- Develop internal simulation frameworks in C++ and data-analysis tools in Python

### Teaching Assistant

Sept 2021 – April 2023

*University Of Toronto*

*Toronto, ON*

- **Computer Organization:** Introduce students to 32-bit ARM v7 assembly, processor design in Verilog, and bare-metal programming on the Intel DE1-SOC Computer.
- **Software Communication & Design:** Supervise and grade 5 groups of students in a competitive design project in C++. Includes NP-C graphing problems, software optimization, and designing a graphical front-end.
- **Programming Fundamentals:** Introduce students to the C++ programming language, object-oriented-programming, data structures, and complexity analysis.

### Software Developer Intern

May 2021 – August 2021

*Rocscience*

*Remote*

- Redesigned CPillar, a \$1000/license C++ geological analysis software, enabling the first major update in years.
- Prototyped unsupervised ML techniques to extract material types from imagery for Rocfall2 and Rocfall3

### Machine Learning Researcher

May 2020 – August 2020

*University Of Toronto – iQua Research Group*

*Remote*

- Applied deep reinforcement learning algorithm to congestion control, edge computing, and network-adaptive coding, resulting in the publication of two conference research papers.

## TECHNICAL SKILLS

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**Languages:** C/C++, Python, Java, Rust, MATLAB, System-Verilog, ARM v7 Assembly

**Math Courses:** Multivariable Calculus, Probability, Linear Algebra, Control Theory, Complex Analysis & ODEs

**Hardware Courses:** Computer Architecture, Computer Organization, Digital Electronics, Digital Systems

**Software Courses:** Algorithms & Data Structures, Operating Systems, Machine Learning, Programming Courses

## PUBLICATIONS

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**Multi-Agent Deep Reinforcement Learning for Cooperative Edge Caching via Hybrid Communication** (Accepted) IEEE ICC-SAC 2023

*Fei Wang, Salma Emara, Isidor Kaplan, Baochun Li, Timothy Zeyl*

**Ivory: Learning Network Adaptive Streaming Codes**

IEEE IWQoS 2022

*Salma Emara, Fei Wang, Isidor Kaplan, Baochun Li*

**Hybrid Algorithm Based on Machine Learning and Deep Learning to Identify Ceramic Insulators and Detect Physical Damages**

IEEE CEIDP 2021

*Youssef El Haj, Ruth Milman, Isidor Kaplan, Ali Ashasi*