Isidor Kaplan

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Education

B.A.Sc Computer Engineering | University Of Toronto Sept. 2019 – May 2024
4.0/4.0 Cumulative GPA | 96.1% Cumulative Average | #1 Top Student Award (Twice) *Toronto, ON*

Experience

Incoming Software Engineering Intern May 2023 – August 2023
Hudson River Trading *New York, NY*

Computer Architect Intern May 2022 – May 2023
Intel *Toronto, ON*

- Design 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*: ARM v7 Assembly, CPU Design in Verilog, Bare-Metal Programming
- *Software Communication & Design*: Graph Algorithms, Competitive Design Project, C++ STL
- *Programming Fundamentals*: C++, Object-Oriented-Programming, Data Structures, Complexity Analysis

Software Developer Intern May 2021 – August 2021
Rocscience *Remote*

- Redesigned legacy commercial C++ stability analysis software enabling first major update in years
- Applied unsupervised machine learning to automated feature extraction from geological images

Machine Learning Academic Researcher May 2020 – August 2020
University Of Toronto – iQua Research Group *Remote*

- Design and apply deep reinforcement learning algorithms under the supervision of Prof. Baochun Li to congestion control, edge computing and network-adaptive coding.

Awards

Edward S. Rogers Sr. Dept of Electrical and Computer Engineering *Top Student Award*	2020-21 and 2021-22
Charles Edwin Trim *Scholarship*	Sept 2021 – April 2022
BFMI Sesquicentennial Trust *Scholarship*	Sept 2020 – April 2021
First-Year *Fellowship*	May 2020 – August 2020
In-Course *Scholarship*	Sept 2019 – April 2020

Technical Skills

Languages: C/C++, Python, Java, Rust, MATLAB, System-Verilog, ARM v7 Assembly
Focus Areas: High Frequency Trading, Computer Architecture, Software Engineering, FPGA, Machine Learning
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

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