


# Isidor Kaplan

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 isidorkaplan.ca/transcript.pdf

## Education

**Bachelor of Applied Science**, Computer Engineering | University of Toronto

- **2019 - 2023** Starting 3rd year in September 2021
- **4.0/4.0 cGPA** Cumulative Grade Point Average (4 terms).
- **96.3%** Cumulative Average

## Professional Experience

**Teaching Assistant (TA)** | University of Toronto | **Fall 2021**

- Introduce students to core programming concepts in such as Object Oriented Programming, Polymorphism, Data Structures, Computational Complexity, and the C++ Programming Language.

**Software Developer Intern** | Rocscience Inc | **Summer 2021**

- Reimplemented *CPillar*, a major C++ software for stability analysis.
- Surveyed state of the art Unsupervised Machine Learning Image Segmentation.

**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.

## Engineering Projects

See for Code and more Detail: <https://github.com/isidorjkaplan>

**CPillar** | Work Project

- Rewrote CPillar from the ground-up in C++ / MFC allowing for first major update in years.
- Incorporated best practices of Object Oriented Design and User Interface Design

**Processor Design Project** | Project

- Designed a Verilog 16-bit, 8-register, interrupt-enabled processor.
- Designed assembly for processor
- Wrote assembly programs using memory-mapped I/O (VGA, buttons, LEDs)

Project GitHub: <https://github.com/isidorjkaplan/ProcessorPublic>

**Mapper Project** | Term Project

- Implemented large-scale Google-maps inspired program in C++
- Designed user-friendly interface for interacting with complicated functionality
- Incorporated sophisticated solution for TSP using Simulated Annealing

Project GitHub: <https://github.com/isidorjkaplan/MapperPublic>

## Publications

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

Youssef El Haj, Ruth Milman, [Isidor Kaplan](#), Ali Ashasi. CEIDP 2021 (Accepted)

## Profile

Computer Engineering student at the University of Toronto with interests in machine learning, software development, and computer hardware.

## Awards

Top Student Award (**2021**)

BFMI Sesquicentennial Trust Scholarship (**2021**)

Deans List (**2019-2021**)

In-Course Scholarship (**2020**)

First-Year Fellowship (**2020**)

ECE244 Contest Top 5 (**2020**)

APS105 Contest Top 5 (**2020**)

## Technical Skills

### Programming Languages

- C / C++
- Python
- Java
- MATLAB

### Hardware

- ARM Assembly
- Verilog
- Quartus
- ModelSim
- FPGA

### AI / ML

- Reinforcement Learning
- Computer Vision
- PyTorch
- OpenCV