

Jeevan Devaranjan

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EDUCATION

University of Toronto

MSc. Computer Science. CGPA: A+. Supervisor: Sanja Fidler

Thesis: Unsupervised Highway Traffic Modelling

Toronto, ON

Sept. 2021 – Present

University of Waterloo

BMath. Computer Science, Combinatorics & Optimization. CGPA: 90% (Major GPA: 91%) Sept. 2016 – May 2021

Double Major in CS and C&O. Graduated on the Dean's Honors List. Termwise Dean's Honors List for all terms.

Waterloo, ON

EXPERIENCE

Nvidia

Research Scientist Intern

Nov 2021 – Jan 2023

Toronto, ON

- Reinforcement Learning and Simulation research with Sanja Fidler and Jonah Philion
- Worked on Traffic Modelling with Multi-Agent Reinforcement Learning. Developed a novel way to train realistic highway traffic agents without human data and an efficient traffic simulator that runs entirely on the GPU in order to train the agents.
- One paper under review for CVPR 2023, another in submission for ICCV 2023.

Layer 6

Machine Learning Research Intern

Aug 2020 – Dec 2020

Toronto, ON

- Computer Vision research with Maksims Volkovs and Satya Gorti
- Worked on unsupervised 3D pose estimation for videos by comparing projections to 2D poses and ensuring time consistency.

Nvidia

Deep Learning Research Intern

Jan 2019 – March 2020 (Part time after Aug)

Toronto, ON

- Generative Reinforcement Learning and Semi Supervised Synthetic Content Generation research with Professor Sanja Fidler and Amlan Kar
- Developed novel grammar based deep generative models and a distribution matching method to produce realistic synthetic data
- Resulting work led to a first author ECCV publication: <https://nv-tlabs.github.io/meta-sim-structure/>

Petuum

Software Engineering Intern

May 2018 – Aug 2018

Pittsburgh, PA

- Implemented probabilistic ML models such as Deep Markov Models and Bayesian CNNs in the Tensorflow and Torch Libraries using Edward, TF Probability and Pyro.
- Added support for probabilistic models on the ML workflow pipeline using GraphQL for distributed ML.

Bank of Montreal

Security Developer Intern

May 2017 – Aug 2017

Toronto, ON

- Developed python scripts for analysis and logging of company security events to Splunk.
- Developed bash and python scripts for migrating the legacy HP Arcsight system to Splunk

SKILLS

Languages: Python, C/C++, Java, R, Scheme, SQL, OCaml

Technologies: Torch, Tensorflow, Spark, GraphQL, Docker, MapReduce, DyNet

AWARDS

University of Waterloo President's Scholarship of Distinction: Awarded to students entering with an entrance average $\geq 95\%$

University of Waterloo Alumni Microsoft Entrance Scholarships in Mathematics: Awarded to outstanding students entering the Faculty of Mathematics

TEACHING EXPERIENCE

- Teaching assistant for CSC108 - Intro to Computer Programming - Fall 2021

PUBLICATIONS

- [1] 1 paper in submission for ICCV 2023.
- [2] 1 paper under double-blind review for CVPR 2023.
- [3] Jeevan Devaranjan, Amlan Kar, and Sanja Fidler. Meta-sim2: Learning to generate synthetic datasets. In *ECCV*, 2020.