Diego Lopez

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Education

McGill University — Bachelor of Science *September 2018 – December 2022*
Joint Honours in Mathematics and Computer Science

Work

Google — Software Developer Intern *January 2022 – April 2022*
- Worked on an internal data visualization library
- Implemented pill and donut charts using **Angular** and **SVG**

Google — Software Developer Intern *May 2021 – August 2021*
- Refactored the frontend of an internal tool
- Migrated from jQuery to pure **JavaScript** and from Bootstrap to **SCSS**

Google — Software Developer Intern *May 2020 – August 2020*
- Worked on a sample application for an end-to-end data science pipeline
- Wrote sample code using **PySpark**, **Airflow** and **sklearn** and wrote drafts for a tutorial

McGill Department of Mathematics and Statistics — Course Assistant *January 2020 – May 2020*
- Graded student homework and held weekly office hours

StreetScan — Computer Vision Developer Intern *June 2019 – August 2019*
- Worked in the machine learning team focusing on semantic segmentation of street scenes
- Recreated frontend of an internal tool originally created with MATLAB using **React.js**

McGill Department of Physics — Research Intern *May 2018 – July 2018*
- Designed machine learning models to predict properties of a quantum system
- Wrote more than **500** lines of **MATLAB** code

Extracurriculars

Society of Undergraduate Mathematics Students — VP, Communications *September 2020 – August 2021*
- Managed mailing list with **700+** students
- Managed the SUMS website using **Wordpress**

McGill AI Society — Executive, Technical Project Manager *March 2019 – May 2020*
- Created and graded assignments for **30+** students in an introductory ML bootcamp
- Designed and gave workshops with **50+** attendees for the McGill community

McGill NeuroTech — Member, Summer Software Team *May 2019 – August 2019*
- Designed and developed a brain controlled game to gamify data collection

Course Projects

Global Illumination — MATH 578, Numerical Analysis 1 *2021*
Link: **diegolopez.me/course-projects/global-illumination.pdf**

Simple 4D Rigid Body Dynamics — COMP 559, Fundamentals of Computer Animation *2021*
Link: **diegolopez.me/course-projects/4d-rigid-body-dynamics.pdf**

Bisimulation on General Probability Spaces — COMP 599, Topics (Statistical Learning Theory) *2021*
Link: **diegolopez.me/course-projects/bisimulation-on-general-probability-spaces.pdf**

The Koopman Representation — MATH 596, Topics (Ergodic Group Theory) *2020*
Link: **diegolopez.me/course-projects/the-koopman-representation.pdf**

Duality is All You Need — COMP 599, Topics (Mathematics for Machine Learning) *2020*
Link: **diegolopez.me/course-projects/duality-is-all-you-need.pdf**

Portfolios

@fullofsymmetry — Looping animations using **p5.js**
Source code: **github.com/Symmetries/animations**

@fullofsymmetries — Fragment shaders using **glsl**
Source code: **shadertoy.com/user/Symmetries**

Personal Projects

Utah Teacup — A simple 3D renderer written in pure **JavaScript** using **HTML5** canvas *2018*
Demo: **diegolopez.me/utah-teapot**

N-Dimensional Collisions — A simple n-dimensional physics engine written with **p5.js** *2018*
Demo: **diegolopez.me/n-dimensional-collisions**

Flip — A 2D/3D maze game written in pure **JavaScript** using **HTML5** canvas *2018*
Demo: **diegolopez.me/flip**

Awards

Climate Crisis AI Hackathon — Won 1st place in the Reducing CO_2 Challenge *2020*

Code.Jam() — Won 3rd place overall *2020*

McGill Physics Hackathon — Won 1st place overall *2020*

Tomlinson Engagement Award for Mentoring — Peer mentored Honours Algebra II *2020*

McWiCS Hackathon — Won 1st place overall *2020*

UdeM Hackathon — Won 2nd place overall *2018*

Canadian Computing Competition — Made it to the Student Honour Roll *2018*