

# Nathalie Redick

United States & Canada

+1 (518) 410 4084 | [nathalieredick@gmail.com](mailto:nathalieredick@gmail.com) | [nredick](https://github.com/nredick) | [in nredick](https://www.linkedin.com/in/nredick)

## EDUCATION

**McGill University** (3.71 / 4.00)

Montreal, QC | Sep. 2019 – May 2023

- B.A. in **Computer Science** with a Minor in **Earth & Planetary Sciences** & a Supplementary Minor Concentration in Computer Science.

## SKILLS

**Programming Languages:** Python, C++, C, Java, R, Julia, MATLAB, HTML/CSS, OCaml, MIPS Assembly.

**Tools:** Git, Unix,  $\LaTeX$ , Jupyter, AWS EC2, VS Code, QGIS, ArcGIS Pro, Microsoft Office Suite, Windows, MacOS.

## EXPERIENCE

**Data Science Intern @ [Esri](#)**

Remote | May 2022 – Aug. 2022

- Implemented an automated workflow for updating national hydrography datasets using Esri's Multi-Task Road Extractor **deep learning** model.
- Improved the baseline ML model by designing new input image layers & geomorphological indicators.
- Improved the baseline model by 4% accuracy to **96.3% accuracy and 0.85 MIOU** by designing new input image layers & geomorphological indicators.

**Software Development Consultant @ [Redbud Development](#)**

Wilton, NY | Jan. 2020 – May 2021

- Designed & built a macOS desktop app in Python that is used to process project budget data for clients.
- Implementing the app into the workflow **reduced proposal creation time by 95%**.

**Software Engineering Intern @ [Blue Spiral Interactive](#)**

Saratoga Springs, NY | May 2019 – Aug. 2019

- Strengthened in-house marketing analysis software by working with a team to build a **RESTful API** for accessing & visualising marketing data.
- Individually developed a pipeline in Python to standardise 10GB of NYS voter registration data to map on QGIS; map was designed to advise a spatially-informed political campaign strategy.
- **Taught** myself Python, Git, & QGIS over the course of the internship. I also gained experience with parallel computing, **reducing execution time by 97%**.

## PROJECTS

**U-Net Tool For Geospatial Analysis | [Interdisciplinary Research](#)**

Sep. 2022 – Present

- Collaborating with [Dr. Matthew Tarling](#) to implement a **U-Net image segmentation model** that can be used by researchers to analyze geospatial problems.
- Our objective is to create a tool that can be used by anyone, regardless of their technical background.

**[Using Machine Learning to Identify Landslides](#) | [Interdisciplinary Research](#)**

May 2021 – Present

- Independently designed a research project to implement an image segmentation ML model to identify landslides using new geological and physical indicators.
- Collaborating with the CGS to implement new methods into the landslide identification workflow & to improve the performance of the model.
- Current iteration of the model boasts **95.3% accuracy & a loss of 0.19**.

## EXTRA-CURRICULARS

**Member | [McGill Artificial Intelligence Society](#)**

Sep. 2022 – Present

- Participated in monthly discussions on AI, attended workshops, & participated in other events.

**Vice President Communications | [The Montereian Society](#) at McGill University**

Sep. 2020 – Present

- Managed communications for the undergraduate student council for Earth & Planetary Sciences.
- Designed & built the council's website to host student resources, events, & other information.

## AWARDS

- Awarded both **Best Design & Most Fun & Creative** hack, leading a team of 3 to design a COVID-19 spoof of [Pac-Man WebGL game](#) using Unity Game Engine, competing against 332 participants at [McHacks9](#).
- Won **Best AI Hack for Art** against 111 participants at MAIS Hacks 2021 for [MAISpeare](#), a LSTM-driven web app that generates a poem from any image.
- Awarded **Best Overall Hack** in my first hackathon at MAIS Hacks 2020 by leading a team against 115 participants to create a XGBoost-driven web app that predicts a user's MBTI Personality Type based on their Tweet data.

**[Geotop 2021 Scholarship Competition](#) (\$1500)**

Geotop | 2021

**Alma Mater Scholarship (\$3000)**

McGill University | 2019

**Stat Staff Professionals Computer Science Scholarship (\$1000)**

Saratoga Springs High School | 2019

