

NATHALIE REDICK

United States & Canada

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EDUCATION

McGill University (3.71 / 4.00)

Montréal, QC | Sep. 2019 – May 2023

- B.A. in **Computer Science**, Minor in **Earth & Planetary Sciences** & Supp. Minor Conc. in Comp. Sci.
- *Relevant Courses*: Algorithms & Data Structures, Data Science, Linear Algebra I & II, Discrete Math, Probability, Statistics, Applied Machine Learning, Probabilistic Programming.

SKILLS

Programming Languages: Python, C++, C, Java, R, Bash, Julia, MATLAB, HTML/CSS.

Tools: Git, Unix, ~~TeX~~TeX, Jupyter, AWS EC2, VS Code, QGIS, ArcGIS Pro.

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 model by ~ 4% accuracy to **96.3% accuracy & 0.85 MIOU** by designing new input image layers & geomorphological indicators.

Software Development Consultant @ Redbud Development

Wilton, NY | Jan. 2020 – Aug. 2021

- Designed & built a macOS desktop app in Python to process design & 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.
- **Self-taught** Python, Git, & QGIS over the course of the internship. I also gained experience with parallel computing, **reducing pipeline execution time by 97%**.

AWARDS

- Won 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](#).
- Awarded **Best AI Hack for Art** against 111 participants at MAIS Hacks 2021 for [MAISpeare](#), a LSTM-driven web app (Python, HTML/CSS) that generates a poem from any image.
- Won **Best Overall Hack** at MAIS Hacks 2020 by leading a team against 115 participants to create a XGBoost-driven [web app](#) (Python, HTML/CSS) that predicts MBTI Personality Type based on Twitter data.

Geotop 2021 Scholarship Competition (\$1500)

Geotop | 2021

- Selected based on my research proposal to *Use ML to Identify Landslides* & my academic performance.

Alma Mater Scholarship (\$3000)

McGill University | 2019

- Entrance bursary to McGill University for academic excellence in high school.

Stat Staff Professionals Computer Science Scholarship (\$1000)

Saratoga Springs High School | 2019

- Selected amongst ~ 40 students for academic excellence & demonstrated potential in computer science.

PROJECTS

U-Net Tool For Geospatial Analysis | *Research @ McGill University*

Sep. 2022 – Present

- Creating a plug & chug **U-Net image segmentation** tool that can be used analyze geospatial problems.

Using Machine Learning to Identify Landslides | *Research @ McGill University*

May 2021 – Present

- Independently designed a research project to implement an image segmentation ML model to identify landslides using geological & physical indicators.
- Currently **collaborating with the California Geological Survey** to expand the project scope.
- 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 Monteregian 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.