




David Holcer

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EDUCATION

McGill University

December 2024

Bachelor of Science in Mathematics and Computer Science

EXPERIENCE

Data Science Researcher

Sept. 2024 – Dec. 2024

McGill University

Montreal, QC

- Innovating novel next-generation techniques for social media bot creation and detection supervised by Professor Derek Ruths. Research Paper Link.
- Harnessing Artificial Intelligence techniques using prompt engineering and fine tuning of LLMs. Tech stack: Python, Docker, Hugging Face API, Open AI Completion API, Llama LLM

Mathematics & Computer Science Tutor

Jan. 2020 – Dec. 2024

McGill University

Montreal, QC

- Led 20+ students to academic success through individualized tutoring sessions.
- Courses Taught: Calculus, Linear Algebra, Introduction to Computer Science.

Software Developer

Sept. 2019 - Dec. 2019

McGill Artificial Intelligence Society Machine Learning Bootcamp

Montreal, QC

- Performed sentiment analysis of published news articles using NLP techniques.
- Tech stack: Python (Pandas, Numpy, Tensorflow, cv2, Sklearn, Seaborn), IBM Watson

Research Intern

June 2017 - Sept. 2017

Simon Fraser University

Vancouver, BC

- Research Topic: *Novel Genomics Data Clustering & Compression Methods* supervised by Dr. Leonid Chindelevitch.
- Achieved a 30% reduction in file size of DNA base pair sequences by developing a Markov Chain clustering algorithm comparing strands' similarities through their compressed representations.

SELECTED PROJECTS

Generative Art | *p5.js, Javascript, Processing, Python*

[Website Link](#)

- Crafted 10+ interactive generative art pieces using p5.js, color theory, and design principles.
- Taught 50+ university students generative art coding concepts by delivering 10 workshops and demoing p5.js projects.
- Analyzed a dataset of worldwide earthquakes creating a comprehensive infographic map by combining Data Science principles and Processing code.

Coverify.ai | *Spotify API, p5.js, React, Next.js, Tailwind CSS, Javascript*

[Devpost Link](#)

- Generated cover art reflecting a playlist's ambiance by analyzing songs and using parsed data to create a liquid diffusion simulation algorithm.

WriteMind | *Typescript, React, IBM Watson Natural Language Understanding*

[Devpost Link](#)

- Innovated a creative writing platform to dynamically alternate music playback based on the sentiment analysis of user inputted text.

StoryWeaver.ai | *co:here API, React, Next.js, p5.js, Tailwind CSS, Javascript*

[Devpost Link](#)

- Designed a modern front-end website and a dynamic generative art piece. Generated personalized, unique, and engaging text narratives.

TECHNICAL SKILLS

Coding Languages: Java, Python, C/C++, JavaScript, SQL, Typescript, OCaml, HTML/CSS, OpenGL

Frameworks: React, Node.js, Next.js, Tailwind CSS, Bootstrap

Developer Tools: Docker, AWS, Git, Relational Databases, MySQL, PostgreSQL, MongoDB

Libraries: NumPy, Matplotlib, PyTorch, p5.js, pandas

Skills: Data Science, Mathematics, Public Speaking, Communication, Research, Unit Testing