

Luca Monteferrante

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EDUCATION

Special Physics Graduate <i>McGill University</i>	Aug. 2025 - Jan. 2026 Montreal, QC
Bachelor of Physics and Computer Science <i>McGill University</i>	Aug. 2021 – May 2025 Montreal, QC
D.E.C. Honors Health Sciences <i>Dawson College</i>	Sep. 2019 – May 2021 Montreal, QC

SKILLS

Language: English (First Language), French (fluent)

Programming Languages: **Python** (Matplotlib, NumPy, Pandas, PyTorch, PyCharm), **SQL**, **Java**, **C**, **C++**, **C#**, Linux, Bash, Command line, HTML, OCaml, Vim, LaTeX, Arduino libraries

Developer Tools: **Git**, **VS Code**, **Azure**, **Google Cloud**, **Power BI**, Excel, Visual Studio, **Microsoft Office**, Smartsheets, Jupiter Notebook, Overleaf, remote computing (SSH), SAP, Ariba, IntelliJ, Eclipse, Segment Anything Model (SAM), Docker, Unity

Computer Science skills: **Artificial Intelligence**, **Machine Learning** (NN, MLP, CNN, KAN), **Data Science**, **Data Analytics**, CI/CD Pipelines, **Database structure and creation**, Algorithm design, Algorithm analysis, Classification, Segmentation, **Data visualization**.

Physics Skills: Astrophysics, Quantum physics, Circuits, Signal processing, Electricity and Magnetism, Lagrangian and Hamiltonian dynamics, Mechanical physics, Physics of Heat and Waves.

EXPERIENCE

Research Assistant - Kai Wang Lab	Jan. 2025 - April 2025
<ul style="list-style-type: none">Built a machine learning (ML) Kolmogorov-Arnold Network (KAN) model in python with pytorch to decompose complex multi-variable functions into easily understandable functions.Wrote an accepted research paper as well as an accepted research proposal.Understood and analyzed the mechanics and data behind these KAN modelsProposed fields to apply these models in the future, such as quantum tomography	
Business Intelligence Intern - Abbvie	Summer 2024
<ul style="list-style-type: none">Leveraged H1 and Power BI to analyze HCP data and provide insights to our in-field team.Initiated automating the market share graphs to help decrease the time and workload of the BI team.Responsible for graphical representations of trends in the marketplace and dashboards to clearly visualize important insights.	
Vendor Data Intern - Abbvie	Summer 2023
<ul style="list-style-type: none">Responsible for the overall data management, reclassification and organization process to better align with business needs, promote agility, and efficiency to internal users.Supported vendor creation and modification requests.Assisted with validating taxes and other important vendor information in preparation for Internal Audit.	

PROJECTS

Trading Card Database Application | **SQL, Java, Bash, SSH, Git**

- Created a **database** in order to handle a trading card website.
- Used **SQL** to handle queries related to trading, selling, buying cards
- Java interface** in order for users to write Reviews, purchase, or sell cards.
- Made a relational schema and ER diagram.

AI Reversi/Othello Agent | **Python, Visual Studio, Git**

- Competed in an AI competition with 220 competitors and placed in 10th place.
- Designed core systems for my **AI agent** such as scoring, heuristics, and evaluation.
- Time efficient code** to evaluate all possible game-states within given turn time limit.

Histopathological Image Classification and Segmentation | **Python, Jupyter Notebook, Git**

- Created a **multi-label machine learning model** to classify tumors of histopathological images.
- Achieved test accuracy of **96.7%** among the histopathological images.
- Able to **detect and highlight** regions of tumors in the histopathological images