# Gabriel Hardy-Joseph

# **EDUCATION**

HEC Montréal Expected Graduation: Dec. 2025

Honours Bachelor's of Business Administration - Business Analytics and Finance

- Relevant coursework: Data Science, Python Programming, Business Analytics, Web Analytics, Statistics.
- Mention of Great Distinction.

# Sogang University

Mar. 2023 – Jun. 2023

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Student Exchange Program - Seoul, South Korea

• Member of the Taekwondo and running clubs, represented the university at the Seoul Shinmun Half-Marathon.

# EXPERIENCE

### HEC Montréal – Tech3Lab | Intern, Research Assistant

May 2025 – Present

- Developed and trained PyTorch-based neural network models to analyze physiological indicators for cognitive load prediction, under the supervision of Prof. Thaddé Rolon-Merette.
- Granted NSERC Undergraduate Research Award, supporting research in natural sciences and engineering (\$7,500).

#### IBM | Intern, Business Analyst

Jan. 2024 – Dec. 2024

- Advised leadership on strategies for IBM's Open Payments Marketplace via industry and competitor research.
- Conducted client-centric research on North American independent software vendors and financial institutions.
- Integrated product analytics into IBM offerings through research and functional requirements development.

### TMX Group | Intern, Business Analyst

Sep. 2022 - Dec. 2022

- Analyzed financial data from approved participants to detect manipulative trading practices.
- Developed a training program aiming to educate new employees about financial markets and regulatory concepts.
- Researched new tools to improve and automate the division's processes through Jira and Confluence.

# Extracurricular

# HEC Case Competitions Team | Academic Delegate

Feb. 2022 – Present

- Garnered 9 top-three podium placements and 3 jury's favorite awards across 10 undergraduate case competitions.
- Selected to represent the university on the global stage at three international business case competitions:
  - Heavener International Case Competition University of Florida, United States (Feb. 2025).
  - RSM STAR Case Competition Rotterdam School of Management, Netherlands (Apr. 2025).
  - Chulalongkorn International Business Case Competition Chulalongkorn University, Thailand (May 2025).

## HEC Data Science Committee | Competitions Vice President

May 2024 - Apr. 2025

• Led a data-driven competition with the CDPQ, conducting 40+ interviews and forming the top two winning teams.

#### **HEC Trading Club** | Executive Vice President

May 2022 – Apr. 2024

• Occupied a leadership position and was responsible for managing the club's projects, events, image and partnerships.

## Projects

# PremierPredict: Football Match Predictor App Python, XGBoost, Streamlit

- Trained an Extreme Gradient Boosting machine learning model to predict the outcomes of Premier League matches.
- Engineered robust features from 25 years of match data including team form, statistics and historical matchups.
- Created an interactive web application using Streamlit which allows users to predict outcomes of upcoming matches.

# Frozen Lake Stochastic Reinforcement Learning Agent 🔀 | Python, NumPy, Gymnasium

- Implemented Q-learning algorithms for stochastic environments using NumPy matrix operations.
- Analyzed performance across episodes, revealing optimization patterns in uncertain environments.
- Authored a technical blog post documenting methodology, results, and insights from the project.

# SKILLS

Tools: Python, SQL, LaTeX, TensorBoard, Tableau, PowerBI, Visual Studio Code, PowerPoint, Excel, Git, Github. Libraries: PyTorch, Pandas, NumPy, Matplotlib, Scikit-Learn, Pytesseract, Gym, Stable Baselines, Pynput, Streamlit.

Languages: Fluent in written and spoken French and English.

Certifications: Hugging Face Deep Reinforcement Learning Course, Stanford Machine Learning Specialization.