Christophe Hatoum

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Education

- **Master in Data Science, Minor in Robotics** **2025 - 2027**
  ETHZ University, Zürich, Switzerland
- **Bachelor of Engineering, Computer Engineering** **2020 - 2024**
  McGill University, Montreal, QC - CGPA: 3.92 / 4.0
  Dean's Honor List, James McGill scholarship, Faculty of Engineering scholarship, Rio Tinto-Evans Exchange scholarship
- **French Baccalaureate (Scientific orientation: Mathematics Specialty)** **2004 - 2019**
  Collège Sainte Famille Fanar, Beirut, Lebanon
  Jury's congratulations (17.73/20)

Technical Skills

- **AI & Machine Learning:** Machine Learning, Deep Learning, Neural Networks, CNNs, LLMs, NLP, Computer Vision
- **Programming languages:** Java, Python, C, C++, Bash, VHDL, Assembly, React, HTML, CSS, JavaScript, MySQL, PyTorch
- **Tools:** GitHub, EDA Playground, Visual Studio, Git, Umple, Eclipse, Figma, Cloud technologies, Airflow, S3, Tableau
- **Languages:** French (fluent), English (fluent), Arabic (fluent), German (beginner)

Work Experience

- **IVIA Lab / Matchminds, Full-Stack Developer (ETH Zürich, Switzerland)** **10/2025 – Present**
  - Developing Matchminds, an ETH-based project-matching platform connecting students with academic opportunities.
  - Building and improving full-stack features using Next.js, TypeScript, PostgreSQL, Docker, and cloud-based infrastructure.
- **BNP Paribas, RDS Data Engineer (Lisbon, Portugal)** **05/2024 – 08/2025**
  - Designed data schemas, modelled data structures, monitored databases' performance, trouble-shooted problems and supported in all data and data infrastructure in SQL, Tableau, and Python.
- **Wager API, Software Engineer Intern (Florida, USA)** **06/2023 – 01/2024**
  - Fullstack software engineer building web scrapers in Python and using SaaS for the webflow.
- **Rogers, Software Engineer Intern (Montreal, Canada)** **08/2022 - 12/2022**
  - Designed, developed, and deployed Perl scripts to automate certain features in TAF (Technology Automation Framework).
  - Managed and created alarms in python, automations, IMT's, NCT's with technologies such as ESAP, REMEDY, TAF…

Projects

- **Activation Archive, Transformer Activation Storage & Compression:**
  - Building a storage pipeline for Tbs of GPT-OSS 20B activations, enabling retrieval by token range and benchmarking how compression affects storage size, read speed, and reconstruction accuracy.
    - *Tech Stack: Python, PyTorch, PyArrow, Zarr v3, Zstandard*
- **Industry Challenge, Inditex & ETH AI Center:**
  - Building an efficient end-to-end video pipeline that detects, tracks, and tags garments worn by protagonists, turning raw footage into structured catalog data.
    - *Tech Stack: Python, OpenCV, YOLO-pose, Gemini (Google Cloud Vertex AI), pytest*
- **SoType, Robot Learning Project:**
  - Co-developed a robotic arm that types sentences on unfamiliar US-layout keyboards, using OCR and homography to locate keys and closed-loop visual feedback to guide each keystroke.
    - *Tech Stack: Python, OpenCV, Tesseract OCR, LeRobot SO-101*
- **StockAI, AI stock analysis:**
  - Built an AI-powered stock prediction platform and integrated real-time market data, sentiment analysis, and AI predictions.
    - *Tech Stack: Python C++, React frontend, Expo, React Native mobile app (WIP).*
- **Multilayer Perceptron and CNN:**
  - Built a multilayer perceptron from scratch and used CNNs and transfer learning to evaluate how architecture, weight initialization, and other hyperparameters affect classification accuracy on Fashion-MNIST and CIFAR-10.
    - *Tech Stack: Python, PyTorch Framework*

Relevant coursework

Algorithms and Data Structures, Applied Machine Learning, Data Science, Big Data, Probabilistic AI, Advanced Machine Learning.

Hobbies and Interests

- **Sports**: Running, Cycling, Brazilian Jiu Jitsu, McGill Varsity Men's squash team captain
- **Volunteering**: Santropol Roulant Montreal volunteer / SOS Children's Villages in Lebanon