

Charly Robinson La Rocca

Montréal, QC
Languages : French, English
larocca.charly@gmail.com
Website : charlylarocca.com
LinkedIn : linkedin.com/in/charlylarocca
GitHub : github.com/laroccacharly

Summary

My multidisciplinary background in Machine Learning, Operations Research, Full-Stack Web Development and Physics makes me a great addition to teams that are looking to advance the state of the art.

- Great candidate for Data Scientist, ML/AI Engineer or Operational Research Developer positions.
- Expert in the integration of machine learning and combinatorial optimization.
- Proficiency in multiple programming languages and developer tools (Python, Julia, C++, Git, SQL, AI agents).

Experience

- | | |
|-------------------|---|
| 07/2025 – 07/2026 | <i>Software Developer, Core Algorithms, ML and Optimization</i> , Kinaxis, Ottawa – Remote
Implemented an ML-based algorithm that speeds up the optimization of supply chain planning problems by up to 5x.
Developed a React dashboard and a REST API in Python, and contributed to C++ bindings for Gurobi and a job scheduling system.
CI/CD, automated testing, code reviews, and documentation. |
| 11/2024 – 06/2025 | <i>SaaS Founder</i> .
Founded mathopt.dev, a mathematical optimization as a service platform.
Users can solve combinatorial problems with a simple API and a pay-as-you-go pricing model.
TypeScript (Next.js) for the frontend, Python for the backend (DevOps/CLI), Docker, AWS. |
| 11/2016 – 10/2017 | <i>Operations Research Analyst and Web developer</i> . Téo Taxi, Montréal
Designed dispatching algorithms which improved revenue by up to 20% [paper].
Developed a Ruby on Rails backend to manage the assignment of requests to taxis.
Ruby on Rails, REST, AWS, PostgreSQL, Agile, Jira, QA. |

Education

- | | |
|-------------|--|
| 2019 – 2025 | UNIVERSITÉ DE MONTRÉAL – Ph. D. Operations Research and Machine Learning
<i>What are effective strategies for learning to solve combinatorial optimization problems?</i>
Canadian National Railway Company Chair on Optimization of Railway Operations
Supervisors: Emma Frejinger and Jean-François Cordeau
Python, Julia, Gurobi, CPLEX, PyTorch, Docker, NumPy, Pandas, HPC |
| 2015 – 2016 | HEC MONTRÉAL – M. Sc. Operations Research
GPA : 4.0/4.3 (highest GPA of my cohort) – Thesis : A+
Supervisor: Jean-François Cordeau |
| 2011 – 2015 | ÉCOLE POLYTECHNIQUE DE MONTRÉAL – B. Sc. Engineering Physics
GPA : 3.9/4.0 |

Latest Peer-Reviewed Publications

- Robinson La Rocca, C., Cordeau, J.-F., Frejinger, E. *Combining supervised learning and local search for the multicommodity capacitated fixed-charge network design problem*. *Transportation Research Part E* 192 (2024), 103805. doi:10.1016/j.tre.2024.103805
- Robinson La Rocca, C., Cordeau, J.-F., Frejinger, E. *One-Shot Learning for MIPs with SOS1 Constraints*. *Operations Research Forum* 5(3) (2024), 57. doi:10.1007/s43069-024-00336-6