Curriculum Vitae

YASSINE YAAKOUBI

Office Address:	1515 Ste. Catherine St. W., EV-4.111 Montréal, QC H3G 2W1 Canada
Email Address:	Yassine.Yaakoubi@concordia.ca
Web:	Yaakoubi.github.io
Office Phone:	(514)-848-2424 ext 7582
Research Areas:	Probabilistic Machine Learning, Reinforcement Learning, Large-Scale Combinatorial Optimization, Stochastic Programming and Processes, Uncertainty Quantification, Mine Planning, Supply/Value Chains, Transportation Systems, Airline Operations, Climate and Sustainability.

Education

2017–2020 **Ph.D. in Mathematics**
Polytechnique Montréal, Canada
Thesis Title: ”Combining Artificial Intelligence and Mathematical Programming for Airline Crew Scheduling”
Advisors: François Soumis and Simon Lacoste-Julien
Note: Fast-tracked from Master’s to Ph.D. program
GPA: 4.0/4.0

2017 **Maîtrise (M.Sc. equivalent) in Applied Mathematics**
Polytechnique Montréal, Canada and Institut Polytechnique de Grenoble, France
Advisor: François Soumis
Note: Fast-tracked to Ph.D. program; dual degree between Institut Polytechnique de Grenoble and Polytechnique Montréal
GPA: 4.0/4.0

2014–2017 **Engineering Diploma in Information Technology**
Institut Polytechnique de Grenoble, France
Joint degree between Phelma (École Nationale Supérieure de Physique, Électronique et Matériaux) and Ensimag (École Nationale Supérieure d’Informatique et de Mathématiques Appliquées)
Triple Major: Discrete Optimization and Operations Research, Networks, IT Security; Double Minor
Graduated with highest honors (”mention très bien”)

Professional Appointments

2024–present **Tenure-Track Assistant Professor**
Concordia University, Montréal, Canada
Department of Mechanical, Industrial & Aerospace Engineering (MIAE), Gina Cody School of Engineering and Computer Science

2022–2024 **Postdoctoral Fellow**
McGill University, Montréal, Canada
COSMO (Stochastic Mine Planning Laboratory)
Supervisors: Roussos Dimitrakopoulos, Erick Delage, Yossiri Adulyasak, Emma Frejinger
Project: Integrated Machine Learning and Optimization for Decision Making under Uncertainty

2023–2024 **Team Lead – Grand Challenge Initiatives in AI for Climate & Nature**
Climate Change AI and Bezos Earth Fund, USA
Led a landscape assessment of the AI for Climate Grand Challenge to identify pitfalls and make recommendations
Collaborated with David Rolnick, Priya L. Donti, Lynn Kaack; resulted in a $100M Grand Challenge

2022–2023 **Program Manager**
Canadian Institute for Advanced Research (CIFAR)
Led a landscape assessment, symposium, and strategic initiative on AI for Energy and the Environment (AI4E&E)

2020–2022 **Postdoctoral Fellow**
McGill University, Montréal, Canada
COSMO (Stochastic Mine Planning Laboratory)
Supervisor: Roussos Dimitrakopoulos
Developed self-learning meta- and hyper-heuristics for stochastic optimization of mining complexes
Spearheaded the development of COSMO Suite software
Assisted in NSERC grant proposals; supervised MSc and PhD students
Served as CIFAR's official reporter for the Pan-Canadian AI Strategy

2017–2019 **Research Assistant**
Polytechnique Montréal, Montréal, Canada
GERAD; Mila (Quebec Artificial Intelligence Institute)
Integrated machine learning and combinatorial optimization for airline crew scheduling
Developed ML-augmented warm-starting and adaptive clustering techniques

2015–2016 **Research Engineer**
Institut Polytechnique de Grenoble, Grenoble, France
G-SCOP Laboratory
Supervisor: Gauttier Stauffer
Applied stochastic traveling salesman problem to golfing strategy optimization
Developed a Q-learning-based reinforcement learning algorithm

2015 **Intern**
General Motors, Strasbourg, France
Optimized automatic transmissions production line and managed supply chain operations
Achieved production goal of 3,000 units within the specified timeline

2014–2015 **Research Engineer**
Institut Polytechnique de Grenoble, Grenoble, France
GIPSA-lab (Grenoble Images Speech Signal and Control)
Supervisor: Franck Quaine
Engineered a myoelectric interface for real-time EMG signal analysis and classification
Demonstrated control of a physical pilot arm via a 3D virtual arm

Research Funding History

Awarded and/or Completed

[F1] **Google Academic Research Programme**
Principal Investigator. 2024/12–2026/1. $85,000 USD.
Funding Source: Google Research (Compute Credits Programme). Funding Competitive?: Yes.
Co-investigators: Amal Rannen-Triki

[F2] **Strengthening African Machine Learning and Artificial Intelligence through Deep Learning Indaba**
Co-investigator. 2024/7–2028/6. $400,000 CAD.
Funding Sources: International Development Research Centre (IDRC), AI4D.
Portion of Funding Received: $100,000 CAD. Funding Competitive?: Yes.
Co-investigators: Emily Muller, Shakir Mohamed.

[F3] **Faculty Research Start-up Funds**
Principal Investigator. 2024/8–2026/8. $75,000 CAD.
Funding Source: Concordia University.

[F4] **Deep Learning Indaba Grant**
Principal Investigator. 2024/5–2025/4. $138,000 USD.
Funding Source: Bill and Melinda Gates Foundation. Funding Competitive?: Yes.
Co-investigator: Shakir Mohamed.

[F5] **Deep Learning Indaba Grant**
Principal Applicant. 2024/8–2025/7. $34,500 USD.
Funding Source: Schmidt Sciences. Funding Competitive?: Yes.

[F6] **IVADO Scientist in Residence Program - Intelligent CapEx Optimization for Sustainable Mining**
Collaborator. 2024/8–2025/2. Total Funding: $10,000 CAD (Scale AI: $5,000 CAD; IVADO: $5,000 CAD).
Portion of Funding Received: $0 CAD. Funding Competitive?: Yes.
Co-applicants: Abdallah Jarray, Luiz Silva, Renaud Sénéchal.
Principal Applicant: Matheus Faria.

[F7] **Integrated Machine Learning and Optimization for Decision Making under Uncertainty**
Co-investigator. 2022/9–2024/8. $70,000 CAD.
Funding Source: IVADO Strategic Research Funding Program. Funding Competitive?: Yes.
Principal Investigator: Roussos Dimitrakopoulos.

[F8] **Doctoral Scholarship**
Principal Applicant. 2017/9–2020/2. $60,000 CAD.
Funding Source: École Polytechnique de Montréal. Funding Competitive?: No.

Under Review

[UR1] **An End-to-End Pathway to an AI-Driven Climate-Resilient Africa**
Co-investigator. 2025/6–2028/5. $600,000 CAD.
Funding Source: International Development Research Centre (IDRC), AI4D. Funding Competitive?: Yes.
Portion of Funding Received: $100,000 CAD.
Co-investigators: Amal Nammouchi, Brian Halubanza, John Bagiliko, Rendani Mbuvha, Sabrina Amrouche, Santiago Hincapie Potes.

[UR2] **Gina Cody Research and Innovation Fellowship**
Principal Investigator. 2025/9–2027/8. $40,000 CAD.
Funding Source: Concordia University. Funding Competitive?: Yes.

[UR3] **Google Research Scholar Program Grant**
Co-applicant. 2025/6–2026/5. $85,000 CAD.
Funding Source: Google, Algorithms and Optimization. Funding Competitive?: Yes.

[UR4] **NVIDIA Academic Grant Program**
Principal Investigator. 2025/2–2025/9. $10,000 CAD.
Funding Source: NVIDIA Academic Grant Program - Data Science. Funding Competitive?: Yes.

Selected Awards and Distinctions

[A1] **Maathai Impact Award**
2024/9. Deep Learning Indaba. Prize/Award.
Recognizes the work of African innovators demonstrating impactful applications of AI/ML that positively transform African societies and communities, honoring the legacy of Wangari Maathai, the first African woman to receive the Nobel Peace Prize, for environmental sustainability and social empowerment.

[A2] **INFORMS Annual Meeting Travel Award**
2022/9–2022/11. INFORMS. $1,500. Prize/Award.
Related to my role as editor of OR/MS Tomorrow.

[A3] **Deep Learning Indaba Travel Award**
2022/9–2024/9. $4,000. Prize/Award.

[A4] **IVADO Postdoctoral Research Fellowship**
2022/9–2024/8. $70,000 CAD. Honor.
Under the IVADO Strategic Research Funding Program.

[A5] **International Conference on Machine Learning Student Volunteer Award**

2021/6–2021/8. Honor.

[A6] **COSMO Consortium Fellowship**
2020/9–2024/9. $200,000 CAD. Prize/Award.

[A7] **École Polytechnique de Montréal Doctoral Fellowship Award**
2018/1–2020/2. $50,000 CAD. Prize/Award.

[A8] **Institut polytechnique de Grenoble Highest Distinctions**
2018/1. Distinction.
Graduated with highest honors from Grenoble Institute of Technology.

[A9] **Explo'RA Sup Exchange Student Mobility Scholarship**
2018/1–2018/12. $5,000 CAD. Prize/Award.
Mobility grant for joint dual diploma between Grenoble Institute of Technology and Polytechnique Montréal.

[A10] **Polytechnique Montréal Master's Scholarship Award**
2017. $10,000 CAD. Prize/Award.

[A11] **Fondation Grenoble INP Excellence Scholarship**
2016. $2,500 CAD. Prize/Award.

[A12] **Phelma – Grenoble INP Research Award**
2015. $1,000 CAD. Prize/Award.

Pre-prints

[P1] **Yaakoubi, Y.**, Donti, P. L., Kaack, L. H., Rolnick, D., Dunietz, J., Malik, M., Afolabi, T., Kuhne, P., Ndzimande, O., Chinyamakobvu, M., Gombakomba, R., Chibvongodze, V., Leslie, T., Bjärby, E., Letuka, T. (2024). *Grand Challenge Initiatives in AI for Climate & Nature: Landscape Assessment and Recommendations*. Climate Change AI (CCAI). **Pre-print**.

[P2] Mbuvha, R., **Yaakoubi, Y.**, Bagiliko, J., Hincapie Potes, S., Nammouchi, A., Amrouche, S. (2024). *Leveraging AI for Climate Resilience in Africa: Challenges, Opportunities, and the Need for Collaboration*. *arXiv preprint arXiv:2407.05210*.

[P3] **Yaakoubi, Y.** (Under Review). Graph-Based Learning for Modeling Delay Propagation in Airline Networks. Submitted to *Triennial Symposium on Transportation Analysis conference*.

[P4] **Yaakoubi, Y.** (Under Review). Machine Learning and Optimization for Decarbonizing High-Emitting Industries. Submitted to *AI+ORMS 2025* at the *AAAI Conference on Artificial Intelligence*.

[P5] **Yaakoubi, Y.**, Soumis, F., Lacoste-Julien, S. (Under Review). Flight-Connection Prediction for Airline Crew Scheduling to Construct Initial Clusters for OR Optimizer. *Transactions on Machine Learning Research*.

[P6] **Yaakoubi, Y.**, Dimitrakopoulos, R. (Under Review). Distributionally Robust Warm-Starting for Mineral Supply/Value Chains. *INFORMS Journal on Computing*.

[P7] Del Castillo, F., **Yaakoubi, Y.**, Dimitrakopoulos, R. (Under Review). Stochastic Optimization of Mining Complexes Integrating Capital Investments and Operational Alternatives. *Annals of Operations Research*.

[P8] Pereira, P., Courtade, E., Aloise, D., Quesnel, F., Soumis, F., **Yaakoubi, Y.** (Under Review). Learning to Branch for the Crew Pairing Problem. *Transportation Research Part E*.

Journal Publications

[J1] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2024). Decision-focused neural adaptive search and diving for optimizing mining complexes. *European Journal of Operational Research*.

[J2] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2023). Learning to schedule heuristics for the simultaneous stochastic optimization of mining complexes. *Computers & Operations Research*, 159, 106349.

[J3] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2022). A data-driven approach for the simultaneous stochastic optimization of mining complexes. *IFAC-PapersOnLine*, 55(21), 67–72.

[J4] Tahir, A., Quesnel, F., Desaulniers, G., El Hallaoui, I., & **Yaakoubi, Y.** (2021). An improved integral column generation algorithm using machine learning for aircrew pairing. *Transportation Science*, 55(6), 1411–1429.

[J5] **Yaakoubi, Y.**, Soumis, F., & Lacoste-Julien, S. (2021). Structured convolutional kernel networks for airline crew scheduling. *International Conference on Machine Learning*. PMLR, 139, 11626–11636.

[J6] **Yaakoubi, Y.**, Soumis, F., & Lacoste-Julien, S. (2020). Machine learning in airline crew pairing to construct initial clusters for dynamic constraint aggregation. *EURO Journal on Transportation and Logistics*, 9(4), 100020.

[J7] Soumis, F., **Yaakoubi, Y.**, & Lacoste-Julien, S. (2019). Machine learning $\rightarrow$ mathematical programming for air crew scheduling. *Proceedings of the Triennial Symposium on Transportation Analysis*.

Conferences, Refereed Workshops & Talks

[C1] **Yaakoubi, Y.**, Soubra, R., Atallah, G., Bedrossian, S., Farhat, L., Issa, J., Manchanda, R., Rahman, N. (2025). Mathematical programming and data analytics toward sustainable mine planning. *CIM Connect 2025*.

[C2] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2025). Machine learning for robust warm-starting in mining complex optimization under uncertainty. *CIM Connect 2025*.

[C3] **Yaakoubi, Y.** (2024). Application-driven machine learning and optimization for decarbonizing high-emitting industries. *Mila Sustainability Reading Group*.

[C4] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2024). Machine learning for distributionally robust warm-starting in mineral supply/value chains. *International Symposium on Mathematical Programming*.

[C5] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2024). Distributionally robust warm-starting for mineral supply/value chains. *Optimization Days*.

[C6] Ezzine, L. N., Bengio, Y., Atanane, A., Boukachab, G., Boussif, O., Mahfoud, M., **Yaakoubi, Y.**, Benabou, L., Boussioux, L., Mitra, P., Jacquillat, A., Den Hertog, D., Bennis, M., El Housni, O., et al. (2023). Leveraging AI for Natural Disaster Management: Takeaways From The Moroccan Earthquake. *NeurIPS 2023 Workshop on Artificial Intelligence for Humanitarian Assistance and Disaster Response*.

[C7] **Yaakoubi, Y.** (2023). Optimization and Learning for Mineral Value Chains. Industrial presentation. *Imperial Oil (ExxonMobil)*.

[C8] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2023). Integrated machine learning and optimization for the simultaneous stochastic optimization of mining complexes. *INFORMS Annual Meeting*.

[C9] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2023). Diverse candidate generation for a sustainability-aware stochastic optimization of mining complexes. *COSMO Technical Day*.

[C10] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2023). Context-aware neural branching & diving strategies for optimizing industrial mining complexes. *CORS / Optimization Days*.

[C11] **Yaakoubi, Y.**, de Carvalho, J. P., & Cutler, J. (2023). Context-aware smart solvers for optimizing supply/value chains. *GERAD-IVADO Contextual Optimization Workshop*.

[C12] **Yaakoubi, Y.**, Radi, H., & Dimitrakopoulos, R. (2022). Learning on graphs for mineral asset valuation under supply and demand uncertainty. *NeurIPS-22 Workshop on Graph Learning for Industrial Applications: Finance, Crime Detection, Medicine and Social Media*.

[C13] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2022). Learning to schedule heuristics for the simultaneous stochastic optimization of mining complexes. In W27: Machine Learning for Operations Research (ML4OR), *AAAI Conference on Artificial Intelligence (AAAI-22)*, 1-8, AI Access Foundation.

[C14] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2022). Rethinking optimizers and continual learning: A study on combining AI and OR for optimizing mining complexes under uncertainty. *COSMO Technical Day*.

[C15] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2022). Self-learning hyper-heuristics for the optimization of industrial mining complexes. *JOPT (Optimization Days)*.

[C16] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2021). A self-learning hyper-heuristic method for strategic mine planning. *INFORMS Annual Meeting*.

[C17] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2021). A self-learning tree-based approach to the simultaneous stochastic optimization of mining complexes. *COSMO Technical Day*.

[C18] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2021). Learn on to perturb: A deep reinforcement learning approach to adaptive simulated annealing for optimizing industrial mining complexes. *European Conference on Operational Research (EURO)*.

[C19] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2021). A self-learning hyper-heuristic method for strategic mine planning. *Conference of the International Federation of Operational Research Societies (IFORS)*.

[C20] **Yaakoubi, Y.**, & Dimitrakopoulos, R. (2020). Learn to perturb: A deep reinforcement learning approach to adaptive simulated annealing for optimizing industrial mining complexes. *COSMO Technical Day*.

[C21] **Yaakoubi, Y.**, Soumis, F., & Lacoste-Julien, S. (2019). Machine learning in airline crew pairing to construct initial clusters for dynamic constraint aggregation. *JOPT (Optimization Days)*.

[C22] **Yaakoubi, Y.**, Lacoste-Julien, S., & Soumis, F. (2019). Structured convolutional kernel networks for airline crew scheduling. *Montreal AI Symposium*.

[C23] **Yaakoubi, Y.**, Soumis, F., & Lacoste-Julien, S. (2018). Accelerating the optimization of aircrew rotations with machine learning. *JOPT (Optimization Days)*.

Teaching Experience

2024–present **Tenure-Track Assistant Professor, Concordia University, Gina Cody School of Engineering**
INDU 6161 – Design & Operations of Supply Chain Networks.
INDU 498 – Data Analytics for Industrial Engineers.

2022–2024 **Instructor, McGill University, Faculty of Engineering**
MIME 522 – Discrete Optimization and Mineral Resources: Lecturing, project supervision.
MIME 631 – Advanced Stochastic Optimization in Mine Planning: Lecturing, grading.
MIME 513 – Mine Planning Optimization Under Uncertainty: Lecturing, grading.

Academic Service and Leadership

2024–present **Deep Learning Indaba**
Steering Committee Member and Sponsorship Chair.
Deep Learning Indaba is an educational charity, whose mission is to strengthen African AI.
Annually: 200+ travel grants, 400+ accommodation scholarships, and 20+ innovation grants.
Raised $1.5 million CAD to strengthen machine learning and artificial intelligence.

2022–2023 **Deep Learning Indaba**
Sponsorship committee member.
Raising annually 600,000+ USD to strengthen machine learning in Africa.
Spearheading the Indaba initiatives on Optimization and Mining.

2022–present **EDI Committee of GERAD**
Comprehensive survey, data analysis, and strategic recommendations.

2021–present **INFORMS OR/MS Today & INFORMS OR/MS Tomorrow**
Editorial staff writer and board member.

2022 **AAAI (Association for the Advancement of Artificial Intelligence) Conference**
Help desk and session co-chair: Provided technical support and chaired conference sessions.

2021 **ICML (International Conference on Machine Learning)**
Help desk and session co-chair: Provided technical support and chaired conference sessions.

2021 **Summer Undergraduate Research in Engineering, Poster Competition at McGill University**
Student presentations and posters evaluation and follow-up mentorship.

2018–2019 **JOPT (Optimization Days)**
Session organizer: Coordinated and chaired conference sessions.

2017–2019 **DeepAlpha Startup (Reinforcement Learning for Portfolio Optimization)**
Provided technical assistance and guidance for portfolio optimization solutions.

Graduate Thesis Committees (not including own graduate students)

2024 **Sara Mohammadi**
PhD Thesis Committee Member
Institution: Concordia University
Thesis Title: "Sustainability and Mathematical Programming-based Supply Chain in Wood Industry"

Advisory Experience

Mentor / Advising Graduate Students and Postdocs

Doctoral Students

2019–2020 **Adil Tahir** (PhD, Polytechnique Montréal, co-supervisor)
Thesis Title: "An Improved Integral Column Generation Algorithm Using Machine Learning for Aircrew Pairing."
Present Position: Assistant Professor, Mohammedia Faculty of Science and Technology.

2019–2020 **Fernanda Del Castillo** (PhD, McGill University, co-supervisor)
Thesis Title: "Stochastic Optimization of Mining Complexes Integrating Capital Investments and Operational Alternatives."
Present Position: Director of AI Governance, Mastercard.

Master's Students

2025 **Amer Essakine** (M.Sc., École Normale Supérieure Paris-Saclay, intern, supervisor)

2025 **Hassen Ben Jemaa** (M.Sc., Tunisia Polytechnic School, intern, supervisor)

2022–2023 **Cristina Tessa Penadillo Palomino** (M.Eng., McGill University, co-supervisor)
Project Title: "Underground Mining: Stope Layout, Production Scheduling, and Access Network."
Present Position: Mining Engineer, Newmont.

2022 **Hager Radi** (M.Sc., University of Alberta, co-supervisor)
Thesis Title: "Learning on Graphs for Mineral Asset Valuation Under Supply and Demand Uncertainty."
Present Position: Applied Research Scientist, Mila.

2021 **Philippe Decoste** (M.Eng., McGill University, co-supervisor)
Project Title: "Robot Navigation in Unknown Environments."
Present Position: Master's Student, McGill University.

2021–2022 **Pierre Pereira** (M.Sc., Polytechnique Montréal, co-supervisor)
Thesis Title: "Learning to Branch for the Crew Pairing Problem."
Present Position: R&D Engineer, JoliBrain.

2021–2022 **Emeric Courtade** (M.Sc., Polytechnique Montréal, co-supervisor)
Thesis Title: "Learning to Branch for the Crew Pairing Problem."
Present Position: Data Scientist, CMA CGM.

2017–2018 **Philippe Racette** (M.Sc., Polytechnique Montréal, co-supervisor)
Thesis Title: "Machine Learning for Airline Crew Rostering."
Present Position: PhD Student, Polytechnique Montréal.

Graduate Capstone Project Students

2024–2025 **Sadjad Siadat** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Delay Prediction in Airline Flight Networks."

2024–2025 **Muneeb Ahmad** (M.A.Sc./M.Eng., Concordia University, mentor)

Project Title: "Delay Prediction in Airline Flight Networks."

2024–2025 **Mohammad Saad** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Delay Prediction in Airline Flight Networks."

2024–2025 **John Sam Daniel** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Delay Prediction in Airline Flight Networks."

2024–2025 **Manan Rajendra Patel** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Delay Prediction in Airline Flight Networks."

2024–2025 **Abhinav Deshwar** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Process Mining and Data Analytics for Improved Airport Operations."

2024–2025 **Aditya Thakkar** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Process Mining and Data Analytics for Improved Airport Operations."

2024–2025 **Divyanshu Jaggi** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Process Mining and Data Analytics for Improved Airport Operations."

2024–2025 **Om Raval** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Process Mining and Data Analytics for Improved Airport Operations."

2024–2025 **Yash Patel** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Process Mining and Data Analytics for Improved Airport Operations."

2024–2025 **Param Patel** (M.A.Sc./M.Eng., Concordia University, mentor)
Project Title: "Process Mining and Data Analytics for Improved Airport Operations."

Mentor / Advisor Undergraduate Students

2024–2025 **Georges Atallah** (B.Eng., Concordia University, mentor)
Project Title: "Strategic Mining Facility Relocation: A Focus On No-Go Zones, Time-To-Relocate, And Social Responsibility."

2024–2025 **Stephanie Bedrossian** (B.Eng., Concordia University, mentor)
Project Title: "Strategic Mining Facility Relocation: A Focus On No-Go Zones, Time-To-Relocate, And Social Responsibility."

2024–2025 **Louwy Farhat** (B.Eng., Concordia University, mentor)
Project Title: "Strategic Mining Facility Relocation: A Focus On No-Go Zones, Time-To-Relocate, And Social Responsibility."

2024–2025 **Jad Issa** (B.Eng., Concordia University, mentor)
Project Title: "Strategic Mining Facility Relocation: A Focus On No-Go Zones, Time-To-Relocate, And Social Responsibility."

2024–2025 **Prithish Manchanda** (B.Eng., Concordia University, mentor)
Project Title: "Strategic Mining Facility Relocation: A Focus On No-Go Zones, Time-To-Relocate, And Social Responsibility."

2024–2025 **Nadia Rahman** (B.Eng., Concordia University, mentor)
Project Title: "Strategic Mining Facility Relocation: A Focus On No-Go Zones, Time-To-Relocate, And Social Responsibility."

2024–2025 **Logan Labossiere** (B.Sc., McGill University, advisor)
Project Title: "Decentralized Smart Mining Complexes: Balancing Short-Term Efficiency with Long-Term Targets Using Multi-Agent Reinforcement Learning."
Present Position: Bachelor's Student, McGill University.

Reviewing Experience

- **Journals:** INFORMS Journal on Computing (3), Resources Policy (3), Transportation science (1), Computers & Geosciences (1), International Journal of Mining Science, Technology (1) and Deep Learning Indaba.
- **Conferences:** ICML (International Conference on Machine Learning) (3), AISTATS (International Conference on Artificial Intelligence and Statistics) (3), International Conference on Computer Science and Application Engineering (3), IFAC (International Federation of Automatic Control Symposium on Control), Optimization and Automation in Mining, Mineral, Metal Processing (1) and JOPT (Optimization Days).
- **Workshops:** Montreal AI Symposium (MAIS) (7).

Certifications & Skills

- **Temporary Restrictive Permit** holder, granted by the **Order of Engineers of Quebec** under the mutual recognition arrangement between France and Quebec. Authorized to work under supervision as "ing. PRT". Successfully completed the professional exam on October 21, 2023. Member number: 6063606

- Programming languages: Python, C/C++, C#, Java, R
- Software libraries: JAX, Pytorch, Tensorflow, Keras, Scikit-learn, Theano, Weka
- Languages: English (C2), French (C2), Arabic (C2), and German (B2)

Media Coverage

[M1] **Thinking Ahead: As the Use of Artificial Intelligence and Machine Learning in Mining is Becoming More Commonplace, Research is Underway to Automate Every Part of a Mining Operation**. *CIM Magazine*, February 4, 2022.

[M2] **Africa's AI Researchers are Ready for Takeoff**, by Melissa Heikkilä. *MIT Technology Review*, November 12, 2024.

[M3] **What Africa Needs to Do to Become a Major AI Player**, by Abdullahi Tsanni. *MIT Technology Review*, November 11, 2024..

Intellectual Property

Intellectual Property Patent & License Inventor

Simultaneous Stochastic Optimization of Mining Complexes for Strategic Planning The first stochastic mine planning software in the market, developed in collaboration with (and commercialized to) a consortium of mining companies that collectively represent 75% of the world's mining activity.