

Er Raqabi El Mehdi

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Education

Polytechnique Montreal (Poly)

Montreal, Canada

Doctor of Philosophy in Applied Mathematics

2020 - Present

- Relevant Coursework: Mathematical Programming (A*), Integer Programming (A*), Graphs and Networks Theory (A*), Modeling in Operations Research (A*), Decomposition Methods and Real-Time Optimization (A*)
- Top 1% (GPA: 4.0/4.0)

International University of Japan (IUJ)

Niigata, Japan

Master of Business Administration

2017 - 2019

- Relevant Coursework: Operations Management (A*), Supply Chain Management (A*), Applied Statistics (A*), Computer-based Decision Modeling (A*), Infrastructure Planning and Management (A*)
- Valedictorian (GPA: 3.89/4.0)

Ecole Mohammadia d'Ingénieurs (EMI)

Rabat, Morocco

Master of Engineering in Industrial Engineering

2013 - 2016

- Relevant Coursework: Operations Research (A), Applied Mathematics (A*), Probabilities and Statistics (A*), Data Science (A), Lean Manufacturing (A*)
- With Honors (GPA: 3.8/4.0)

Publications (*: Equal Contribution)

- “*The Primal Benders Decomposition*”, **Er Raqabi El Mehdi**, El Hallaoui Issmail and Soumis François, **Soon to be submitted**, 2022
- “*Incremental LNS Framework for Integrated Production, Inventory, and Vessel Scheduling: Application to the Mining Industry*”, **Er Raqabi El Mehdi**, Himmich Ilyas, El Hachemi Nizar, El Hallaoui Issmail and Soumis François, **Major Revision in Omega**, 2022
- “*MPILS: An Automatic Tuner for MILP Solvers*”, Himmich Ilyas*, **Er Raqabi El Mehdi***, El Hachemi Nizar, El Hallaoui Issmail and Soumis François, **Major Revision in Computers & Operations Research**, 2022
- “*An Electric Vehicle Migration Framework for Public Fleet Planning*”, **Er Raqabi El Mehdi** and Li Wenkai, **Submitted to Transportation Research Part D: Transport and Environment**, 2022
- “*A Column Generation Framework for the Tail Assignment Problem with Operational Maintenance Constraints*”, Sambrekar Akash, **Er Raqabi El Mehdi** and El Hallaoui Issmail, **Soon to be submitted**, 2022
- “*An Electric Vehicle Migration Framework*”, Master’s Thesis, International University of Japan, 2019

Honors & Awards

- **FRQNT Ph.D. Merit Scholarship**, \$77,000, FRQNT, 2021
- **IVADO Ph.D. Excellence Scholarship**, \$75,000, IVADO Institute, 2021
- **Vanier Canada Graduate Scholarship** (“Waitlisted”), \$150,000, Government of Canada, 2021
- **James Brian Quinn Scholar**, *MBA Batch Valedictorian*, IUJ, 2019
- **Beta Gamma Sigma Academic Honor Society**, *Top 1% MBA Batch*, IUJ, 2019
- **Valedictorian Speech**, *IUJ Graduation Ceremony*, IUJ, 2019
- **Dean’s List**, *Academic Terms Distinction* (×3), IUJ, 2017-2019
- **First Year Special Recognition**, *Top 1% MBA Batch*, IUJ, 2018
- **ABE Initiative Scholarship**, \$120,000, Japan International Cooperation Agency, 2017
- **Third Year Valedictorian**, *Distinction*, EMI, 2016
- **EMI Industrial Challenge**, \$2000, EMI, 2015
- **Grand Admis National Entrance Exam**, *Top 5% Applicants*, Preparatory Classes, 2013

Research Experience

Polytechnique Montreal

Montreal, Canada

Research Assistant

2020 - Present

- Advisors: Profs. El Hallaoui Issmail and Soumis François
- Research Areas: Operations Research, Large-Scale Optimization, Decompositions, Metaheuristics, Solvers, Data Science, ML for OR
- Applications: Airline, Mining, Transportation, Operations and Supply Chain Management
- Collaborations with OCP, UM6P, Laminaar, and IVADO

International University of Japan

Research Project

Niigata, Japan

2018 - 2019

- Advisor: Prof. Li Wenkai
- Developed an Electric Vehicles Migration Framework for Developing Countries
- Collaboration with Fostergy Technologies Inc.

Work Experience

Fostergy Technologies Inc.

Niigata, Japan

Operational Researcher & Data Scientist

2017 - 2019

- Designing efficient and effective selection of the appropriate vehicle components and prediction of the vehicle behavior over different kinds of routes/duty cycles and over a huge number of vehicle parameters' choices
- Enhancing of user's simulation capability and reduce development time many folds

ProQuest

Yokohama, Japan

Systems Engineering Internship

Fall 2018

- Promoting of the on-line ProQuest's product training
- Planning, Designing, and Implementing the use of databases within IUJ Library

Induproj

El Jadida, Morocco

Quality & Safety Manager

2016 - 2017

- Leading quality management through the international standard ISO 9001, quality control of all the work done on the construction sites, and quality assurance into which I was dealing with customers' requirements and seeking their satisfaction
- Leading safety management through the standard OHSAS 18001 and safety control of all the work done on the construction sites. Achieved the main safety KPI of 0 accident

Bombardier

Casablanca, Morocco

Operations Management Intern

Spring 2016

- Designing and implementing an Automated Production System for assembly lines monitoring
- Introducing Data mining for knowledge extraction

Managem Group

Tinghir, Morocco

Industrial Challenge

Summer 2015

- Modeling and Simulation of the Silver Treatment Plant at SMI
- Mapping of Ag rocks flows at SMI

Teaching Experience

Polytechnique Montreal

Montreal, Canada

Teaching Assistant

2021 - Present

- MTH6406 - Modeling in Operations Research, 4 hours/week for 13 weeks, Masters and Ph.D. (Winter)

International University of Japan

Niigata, Japan

Teaching Assistant

2018 - 2019

- OPR1010 - Operations Management, 3 hours/week for 12 weeks, Masters (Winter 2019)
- QIS1070 - Computer-based Decision Modeling, 3 hours/week for 12 weeks, Masters (Fall 2019)
- QIS1020 - Applied Statistics, 3 hours/week for 12 weeks, Masters (Fall 2019)

JDS Tutor

2017 - 2018

- Tutor for MBA students under the Graduate School of International Management. Topics: QIS1020 - Applied Statistics, QIS1070 - Computer Based Decision Making, ACT1010 - Financial Accounting, FIN1010 - Corporate Finance, ECN1010 - Managerial Economics, 2 hours/week for 48 weeks

Selected Talks

MPILS: An Automatic Tuner for MILP Solvers

- CORS/INFORMS International Conference, Vancouver, Canada, 2022
- JOPT, Montreal, Canada, 2022

Design of Electric Vehicle Charging Stations

- SLACJ 6th International Conference on Indo-Pacific Studies, Niigata, Japan, 2019

Achieving Traceability within Supply Chains through Data Science

- International Conference On Advances In Cloud Computing, Data Science And Big Data Analytics, Tokyo, Japan, 2019

Leadership & Service Activities

Organizing & Leadership

- *Science Popularization*: Bringing science to the general public, to disseminate scientific knowledge, foster experience sharing, and introducing research topics to students via Medium & LinkedIn, 2018-2022
- *Better Research Better Life*: Leading the organization and execution of the first Library Day in IUJ history. The initiative is still going on within more Japanese universities, 2019
- *Head of Houses*: Leading the social interaction among international students from around 70 countries through the House System. Our motto is: "Honoring Our Unique Social Environment". The initiative is still going on, 2018

Outreach & Volunteering

- *Canadian Operations Research Society*: Volunteer in the Montreal Operations Research Student Chapter (MORSC), 2022
- *Industrial Seminars*: Speaker at several seminars within the Industrial Engineering Department of EMI, 2019-2022
- *Tutor*: Academic orientation and schooling for Moroccan undergraduate and graduate students, 2017-2022
- *Snow Shoveling*: Volunteer in snow shoveling activities to help and support elderly citizens of Minamiuonuma City, 2018

Skills

- **Programming & Software**: C++, CPLEX, LaTeX, Excel, PowerPoint (Proficient), Python, R, VBA, SQL (Familiar)
- **Languages**: Arabic (Native), French, English (Bilingual)

References

El Hallaoui Issmaïl

Full Professor

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Soumis François

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