

JEAN-SÉBASTIEN MATTE

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Desautels Faculty of Management

1001 Sherbrooke St W, Montreal, Quebec H3A 1G5

EDUCATION

McGill University, Montréal, Qc, Canada

Sept. 2019 - present

PhD Student

Research Interests: Sustainable Operations, Behavioural Economics, Choice Models, Assortment Optimization & Left-Over Inventory, Data-Driven Optimization, Big Data

Methods: Empirical Research, Econometrics, Linear Programming

Supervised by: Dr. Mehmet Gumus

Université Laval, Québec, Qc, Canada

Sept. 2012 - May 2014

M.Sc. in Civil Engineering

Thesis: Behaviour of Buildings with Asymmetric Setbacks under Seismic Loading

Supervised by: Dr. Charles-Darwin Annan

Université Laval, Québec, Qc, Canada

Sept. 2008 - May 2012

B.Eng. in Civil Engineering

ACADEMIC VISITS

Rotterdam School of Management–Erasmus University

Sept. 2022 – present

Visiting PhD Student

Rotterdam, Netherlands

Host & Collaborator: Prof. Robert Rooderkerk

RESEARCH & ACADEMIC EXPERIENCE

Centre de Recherche sur les Infrastructures en Béton (CRIB)

Sept. 2014 – Nov. 2014

Research Professional

Québec, Qc, Canada

- NSERC FONCER-INFRA research program: managed research projects, provided guidance to graduate students.
- Developed practice problems for the Prestressed Concrete graduate course.

NSERC ENGAGE Research Project

Jan. 2014 – Sept. 2014

Research Assistant

Québec, Qc, Canada

Towards an Improved Design Procedure for Incorporating Soil-Structure Interaction in Seismic Performance Evaluation. PI: Dr. Charles-Darwin Annan

- Reviewed the literature on material and component mathematical models.
- Developed the mathematical analytical model.
- Co-author of project report submitted to NSERC and a partnering consulting firm.

TEACHING

McGill University

Sept. 2020 - present

Teaching Assistant

Montréal, Qc, Canada

- Operations Management (MBA and MMA programs)

Université Laval*Lecturer – Steel Desing*

Jan. 2014 – May 2014

Québec, Qc, Canada

- Design and lead lectures for a class of 170 students.
- Responsible for writing the final exam.

Université Laval*Teaching Assistant*

Sept. 2012 – Aug. 2014

Québec, Qc, Canada

- Structural Analysis (2012), Steel Design (2012, 2013), Structural Damage Diagnosis and Repairs (2013).

SUPERVISION**MITACS GLOBALINK Internship***Neha Madhulika and Vamshi Kadumuri, Université Laval*

May 2015 – Aug. 2015

Québec, Qc, Canada

- Provided supervision and guidance to Neha and Vamshi, whose internship was aimed at extending the findings of my Master's thesis.

EXAMINATION COMMITTEE MEMBERSHIP**Masters Examination Committee**

- Constance Efio-Akolly (2021) - Département de génie civil et des eaux, Université Laval.

AWARDS & SCHOLARSHIPS**Graduate Mobility Award***Graduate and Postdoctoral Studies - McGill University*

2022

\$11,500

- The Graduate Mobility Award encourages graduate students to study and conduct research abroad. A limited number of awards, funded by the Government of Quebec, are available each year on a competitive basis.

MSRC Performance Award—Honorable Mention*Management Science Research Center (MSRC) - Desautels Faculty of Management*

2021

\$2,000

- Awarded by the MSRC to the best PhD student project proposal.

Walter John Stenason Fellowship*Desautels Faculty of Management*

2019-2020

\$10,000

- Awarded by Graduate and Postdoctoral Studies upon the recommendation of the Desautels Faculty of Management to outstanding Canadian Ph.D. students.

PhD Program in Management Guaranteed Funding Award (MGFA)*Desautels Faculty of Management*

2019-2023

*\$30,000/year***Honour List - Master's Thesis***Faculty of Graduate and Postdoctoral Studies, Université Laval*

2015

- The Honour List includes graduates of a thesis master's program whose theses received a unanimous grade of "excellent".

Funding for scientific communication*Association des étudiant(e)s de Laval inscrits aux études supérieures (AELIES), Université Laval \$500*

2014

- Funding provided to present and attend the CSCE 2014 4th Int. Structural Speciality Conference.

Merit Research Scholarship

Faculty of Graduate and Postdoctoral Studies, Université Laval

2013, 2014

\$200, \$300

- Awarded to graduate students who complete the stages of their program on time.

NON-ACADEMIC WORK EXPERIENCE

LERA Consulting Structural Engineers

Design Engineer & Project Manager

Nov. 2014 – July 2019

New York City, NY, USA

- **Managed in-house teams of several engineers and interns.**
- **Managed design development with Owners, Architects, Service Engineers and Contractors.**
- **Founder and Project Lead for LERA Tools:** Committee developing and standardizing design & optimization tools, and workflows, to be used office-wide.
- **Designed, analyzed, and optimized complex structural systems.** Researched on analysis methods, materials and systems modelling, international and local building codes, construction methods and available materials.
- **Authored and co-authored** design narratives, calculation packages, peer-review and forensics reports.

VOLUNTEERING WORK

Architect Registration Exam (ARE) Program

Lecturer

2019

New York City, NY, USA

- LERA-based initiative: Engineers **providing structural engineering lessons and tutoring to architectural professionals** in preparation for their board exam.

Fashion Revolution USA

Consultant

2018

New York City, NY, USA

- **Advise on the development of the High School Upcycle Competition.**
- Volunteer during the Fashion Revolution Week 2018

ACE Mentor Program of America

Office Team Leader

2017 - 2019

New York City, NY, USA

- **Mentoring High School students and promote careers in STEM**, specifically in Architecture/Construction/Engineering (ACE).

Project JUST

Researcher

2016 - 2018

New York City, NY, USA

- **Research on ethically and environmentally sustainable practices** of fashion brands, published on the website's wiki.

SKILLS & TECHNICAL STRENGTHS

Programming

Packages & Libraries

Languages

Python, R, L^AT_EX, C++, bash, Matlab, SQL

Numpy, Pandas, Scipy, Sklearn, RSOME, Mosek, Gurobi,
Multiprocessing, PyTorch

French, English

OPEN-SOURCE PACKAGES

- webscrape (working)** 2022
Language: Python
- Python package to automate web scraping.
- mnle (working)** 2022
Language: R
- MultiNomial Logit (Maximum Likelihood) Estimation for Large Data Sets in R.
- hmcb** 2022
Language: Python
- Hidden Markov Chain Model for Purchase Propensity.
- MF (working)** 2022
Language: Python
- Matrix Factorization for Collaborative Filtering python package. Implementation of ALS and eALS methods.
- mca (working)** 2022
Language: Python
- Multiple Correspondence Analysis (MCA) python package
- cleanstream (working)** 2022
Language: Python
- Python package to extract and clean clickstream data from raw json files.

PUBLICATIONS, PRESENTATIONS & TALKS

Peer-Reviewed Conference Publications

1. **Matte, J.-S.**, Annan, C. D., Bastien, J., (2014) Seismic behaviour of multi-storey buildings with asymmetric setback. *Proc. 4th International Structural Specialty Conference*, Halifax, Canada, Paper CST106, 10pp.
2. Hassan, M.H., Annan, C.-D., **Matte, J.-S.**, (2013) Finite Element Analysis of Cable-Stayed Bridges under the Effect of Accidental Loss of a Stay Cable. *Proc. CSCE 2013 General Conference*, Montréal, Canada, Paper GT43, 12pp.

Research Reports

1. Annan, C.-D., Kalyan, S., Raman, T., Saberi, M., **Matte, J.-S.**, (2014) *Towards an Improved Design Procedure for Incorporating Soil-Structure Interaction in Seismic Performance Evaluation.*, NSERC ENGAGE Grant EGP 459267-13, 44pp.

Working Papers

1. “Product Variety and Consumer Behaviour in Online Fast Fashion Retailing” (with Javad Nasiry and Mehmet Gumus).

Work in Progress

1. “Sustainable Assortment Optimization” (with Robert Rooderkerk, Javad Nasiry and Mehmet Gumus).
2. “Optimizing the Bipartite Graph Representation of an Assortment” (with Javad Nasiry and Mehmet Gumus).

3. “Cleanstream: a Python package to extract and clean clickstream data from json files” pre-print and open-source Python package.
4. “**mnle**: MultiNomial Logit (Maximum Likelihood) Estimation for Large Data Sets in R”

Presentations

1. *5th Meeting of the EURO Working Group (EWG) on Retail*: **Matte, J.-S.**, Nasiry, J., Gumus, M., Product Variety and Consumer Behaviour in Online Fashion Retailing. Koç University, Istanbul, October 12-13, 2022.
2. *32nd Annual POMS Conference*: **Matte, J.-S.**, Nasiry, J., Gumus, M., Product Variety and Consumer Behaviour in Online Fashion Retailing. Online, April 21-25, 2022.
3. *CSCE 2014 4th Int. Structural Speciality Conference*: **Matte, J.-S.**, Annan, C.-D., Bastien, J., Seismic Behaviour of Multi-Storey Buildings with Asymmetric Setback – the Effect of the Level and the Degree of Setback. Halifax, Canada, May 2014.
4. *CSCE 2013 General Conference*: Hassan, M.H., Annan, C.-D., **Matte, J.-S.**, Finite Element Analysis of Cable-Stayed Bridges under the Effect of Accidental Loss of a Stay Cable. Montréal, Canada, May 2013.

Poster Presentations

1. *Colloque du Centre d'études interuniversitaire des structures sous charges extrêmes (CEISCE) 2014*: **Matte, J.-S.**, Comportement sismique des bâtiments avec retrait excentré en élévation. Université Laval, Québec, Canada, May 2014.

Talks

1. *The Engineering Challenges of World Trade Center Tower 4*: **Matte, J.-S.** Presentation to MIT graduate students. LERA, New York City, NY, USA, Jan. 2019.