Jaël Champagne Gareau

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Career goal

Use my mathematical skills of problem modeling and deductive reasoning, as well as my knowledge of algorithms and artificial intelligence (AI) in order to solve complex problems and contribute to the advancement of knowledge in these domains for the benefit of society. Participate in training the next generation of scientists

Education

Ph. D in Computer Science (supervised by Pr. Éric Beaudry and Vladimir Makarenkov) — **4.30/4.30**
Université du Québec à Montréal — *2019–*

M. Sc in Computer Science (supervised by Pr. Éric Beaudry and Vladimir Makarenkov) — **4.20/4.30**
Université du Québec à Montréal — *2017–2019*

Advanced Certificate in software development — **4.30/4.30**
Université du Québec à Montréal — *2016–2017*

B. Sc in Pure Mathematics — **3.97/4.30**
Université du Québec à Montréal — *2013–2016*

College studies in Sciences, Computer Science and Mathematics — **R-rank: 32**
Collège de Maisonneuve — *2010–2012*

Work and research experiences

Teaching assistant
Université du Québec à Montréal — *2016–2022*
- MAT0339 : General mathematics
- INF1132 : Mathematics for computer science
- INF3105 : Data structures and algorithms
- INF3135 : Software development and maintenance
- INF5130 : Design and analysis of algorithms
- INF6120 : Fonctionnal and logic programming

Lecturer for INF3105: Data structures and algorithms
Université du Québec à Montréal — *2020*

Research and development of Machine-Learning algorithms
Université du Québec à Montréal — *2017–2019*

Undergrad research internship in Mathematics (algebraic curves)
Université du Québec à Montréal (CIRGET, ISM), supervised by Pr. Olivier Collin — *Summer 2014*

Private lessons in Mathematics (high-school and college level)
Various contracts — *2010–2014*

Scholarships and awards

- Doctoral Scholarship from Fonds de Recherche du Québec — Nature et Technologies (FRQNT) — 2022–2023
- Alexander Graham-Bell Canada Graduate Scholarship (CGS, NSERC) — 2019–2022

- Master Scholarship from Fonds de Recherche du Québec — Nature et Technologies (FRQNT)   2018–2019
- Excellence Scholarship from the Faculty of Sciences of UQAM (granted by Hydro-Québec)   2017–2018
- UQAM's Registrar's Office Scholarship in Computer Science   2017–2018
- Master's recruitment Scholarship from UQAM's Faculty of Sciences   2017–2018
- Inscription on the UQAM's Dean of the Faculty of Sciences' list of excellence   2013–2014

Social experiences and volunteering

Université du Québec à Montréal   **Montréal**
President of the student's graduate studies in Computer Sciences' Association (AECSI-UQAM)   *2018–2022*

Réseau Technoscience   **Montréal**
Volunteer for the evaluation of scientific projects at Montréal and Québec's finals for Expo-Sciences   *2018–2022*

Intelligent Tutoring Systems (ITS2018); Educational Data Mining (EDM2019)   **Montréal**
Member of the organizing committee of Scientific conferences   *2018, 2019*

Université du Québec à Montréal   **Montréal**
Member of the Master and Ph. D Computer Science program Committee   *2017–2022*

Technical and personal skills

- **Programming languages:** C, C++, Java, Python, Haskell, Prolog

- **Other Computer Science skills:** Algorithmic, Data Structures, LaTeX, Linux, Bash

- **General skills:** Professionnal writing of scientific documents, good communication of scientific concepts

- **Linguistic skills:**
  - French: Native language
  - English: Advanced reading, writing and speaking skills

- **Other:** Good problem-solving skill, Good basis in Mathematics (Analysis and Algebra)

References

J. Champagne Gareau, É. Beaudry, and V. Makarenkov. Cache-efficient memory representation of markov decision processes. In *Canadian Conference on Artificial Intelligence – Canadian AI 2022*, 2022.

J. Champagne Gareau, É. Beaudry, and V. Makarenkov. pctvi: Parallel mdp solver using a decomposition into independent chains. In *International Federation of Classification Societies – IFCS 2022*, 2022.

J. Champagne Gareau, É. Beaudry, and V. Makarenkov. Fast and optimal planner for the discrete grid-based coverage path-planning problem. In *Intelligent Data Engineering and Automated Learning – IDEAL 2021*, pages 87–96. Springer International Publishing, 2021. ISBN 978-3-030-91608-4.

J. Milot, J. Champagne Gareau, and É. Beaudry. An Energy-Efficient Method with Dynamic GPS Sampling Rate for Transport Mode Detection and Trip Reconstruction. In *Advances in Artificial Intelligence (Canadian AI)*, pages 408–419. Springer International Publishing, 2020. ISBN 978-3-030-47358-7.

J. Champagne Gareau, É. Beaudry, and V. Makarenkov. An Efficient Electric Vehicle Path-Planner That Considers the Waiting Time. In *Proc. of ACM SIGSPATIAL'19*, Chicago, 2019.

J. Champagne Gareau, É. Beaudry, and V. Makarenkov. A Fast Electric Vehicle Path-Planner Using Clustering. In *Proc. of the International Federation of Classification Societies (IFCS2019)*, Thessaloniki, 2019.