

CV – Alexandre Mercier-Aubin

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Personal Profile

Graduate student at McGill University in computer science. My fields of study are constraint programming, computer graphics and algorithms. I seek knowledge as well as new challenges to push forward my limits.

Education

2020-2023	PhD in Computer Science - McGill University <i>In progress</i>
2019-2020	M. Sc. in Computer Science - Université Laval <i>Research in constraint programming with Prof. Claude-Guy Quimper</i>
2017-2019	B. Sc. in Computer Science - Université Laval <i>honor profile</i>
2014-2017	DEC-BAC in Computer Science - Cégep Lévis-Lauzon

Employment History

Present	McGill <i>teaching assistant and AGSEM delegate</i> Attend office hours and defend the rights of TAs
2020	Université Laval <i>teaching assistant</i> Teach the practical aspect of the advanced programming in C++ course. Corrector for the computer graphics course. Support students at the help center for computer science students (CARÉ) with questions related to 15 different courses: from beginner programming courses to advanced algorithm design and operating systems.
2018/05, 2018/09	Activision, Beenox <i>game engine developer intern</i> Design and program the game engine for Call of Duty: Black Ops 4. Technologies: DirectX, C++, LUA Contributions: Shaders, LOD formulas, Bugfixes, HUD formulas, cross-platform compatibilities, etc.

- 2017/01 - 2017/08** Centre de Robotique et Vision Industrielle
Intern/Programmer
 Machine learning applied to Computer Vision.
- 2016/05 - 2016/09** Valero, Levis
computer science intern
 Translate programs from Visual Basic to C#.
- 2015/05 - 2015/09** Consortium Cooperatif de Services Fédératifs
IT Technician
 IT support, creating and managing a database, creating a web site, etc.

Prizes and scholarship

- **Bourse de doctorat Hydro-Québec en science**
 15 000\$ *per year, up to 3 years*
- **School of Computer Science PhD funding, McGill University**
 21 000\$ *per year, up to 3 years*
 3 000\$ top up from Mechanical Engineering.
- **MITACS accelerate, CRISI**
 39 000\$
- **Undergraduate Research Fellowship 2019-2020, Université Laval**
I declined 6500\$
- **Association for Constraint Programming, CP2019**
 450\$

Publications

Peer-reviewed conference papers

published

- Alexandre Mercier-Aubin, Ludwig Dumetz, Jonathan Gaudreault, and Claude-Guy Quimper. The Confidence Constraint : A Step Towards Stochastic CP Solvers. In Proceedings of the 26th International Conference on Principles and Practice of Constraint Programming (CP 2020), pages 759-773, 2020.
- Alexandre Mercier-Aubin, Jonathan Gaudreault, and Claude-Guy Quimper. Leveraging Constraint Scheduling: A Case Study to the Textile Industry. In Proceedings of the 17th International Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research (CPAIOR 2020), pages 334-346, 2020.

Thesis

- Alexandre Mercier-Aubin. Ordonnancement de tâches sous contraintes sur des métiers à tisser. M. Sc. Thesis, Université Laval, 2020.

Peer-reviewed workshops

- Alexandre Mercier-Aubin, Jonathan Gaudreault and Claude-Guy Quimper. Multi-Resource Scheduling with Setup Times: An Application Case to the Textile Industry. 25th International Conference on Principles and Practice of Constraint Programming (CP 2019): Doctoral program. https://cp2019.a4cp.org/accepted_dp/09-alexandre_mercier_aubin.pdf (accessed January 29, 2020).

Interests

- Teaching
- Algorithms
- Games & game development
- Constraint programming
- Hiking
- Music

Leadership

- **Leader in various undergraduate team projects:** Gaudrophone, BigData7027, projet2018-eq4 and ComputerGraphics, etc.
- **Team leader in the Valleyfield game creator competition**

Some interesting projects

- **Game engines**
One made during college: <https://youtu.be/8OPpt3-iIbY>
The source code of a more complex engine: <https://github.com/AlexandreMercierAubin/ComputerGraphics>
- **Video games I worked on**
Call of Duty: Black Ops 4: <https://www.callofduty.com/ca/en/blackops4>
Proto-Spyder Assault, 48h Valleyfield game dev contest: <https://youtu.be/qJjy8b0kuSY>
SansFin, french horror game, collegial project: <https://youtu.be/s6vr07Nt1IY>

Extracurricular

AGSEM Delegate: Act as a delegate for the department of Computer Science at McGill.

V.P. Social at the AGIL: Organize events for the association of graduate student in computer science.

Volunteer at the ASETIN: Volunteer work at the student association of computer science. I've been a bartender, receptionist and helped prepare the initiations.

Volunteer at Lévis: Receptionist at the Water Festival of Lévis.

Student volunteer at SCP 2020: I support the week-long conference by ensuring the smooth functioning of operations in technical paper sessions and main exhibitions.

Referees

Name	Claude-Guy Quimper	Name	Jonathan Gaudreault
Company	Université Laval	Company	Université Laval
Position	Associate Professor	Position	Full Professor
Contact	Claude-Guy.Quimper@ift.ulaval.ca	Contact	jonathan.gaudreault@ift.ulaval.ca