

# CV – Alexandre Mercier-Aubin

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| <b>Address</b>       | 73 Barrette,<br>Levis, Quebec, Canada | <b>Mobile Phone</b> | +1 (418) 572 0698                   |
| <b>Date of Birth</b> | December 16, 1996                     | <b>Email</b>        | alexandre.mercier-aubin.1@ulaval.ca |
| <b>Nationality</b>   | Canadian                              | <b>Website</b>      | alexandremercieraubin.com           |

## 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  
*In progress*
- 2019-2020** M. Sc. in Computer Science - Université Laval  
*Research in constraint programming with Prof. Claude-Guy Quimper*
- 2017-2019** B. Sc. in Computer Science - Université Laval  
*honor profile*
- 2014-2017** DEC-BAC in Computer Science - Cégep Lévis-Lauzon

## Employment History

- Present** Université Laval  
*teaching assistant*  
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  
*game engine developer intern*  
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 -** Valero, Levis  
**2016/09** *computer science intern*  
 Translate programs from Visual Basic to C#.
- 2015/05 -** Consortium Cooperatif de Services Fédératifs  
**2015/09** *IT Technician*  
 IT support, creating and managing a database, creating a web site, etc.

## Prizes and scholarship

- **School of Computer Science PhD funding, McGill University**  
 21 000\$ *per year, up to 3 years*
- **MITACS accelerate, CRISI**  
 39 000\$
- **Undergraduate Research Fellowship 2019-2020, Université Laval**  
*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 Tolerance Constraint: A Step Towards Stochastic CP Solvers. To appear in proceedings of the 26th International Conference on Principles and Practice of Constraint Programming (CP 2020), 2020.
- Alexandre Mercier-Aubin, Jonathan Gaudreault and Claude-Guy Quimper. Leveraging Constraint Scheduling: A Case Study to the Textile Industry. To appear in proceedings of the 17th International Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research (CPAIOR 2020), 2020.

### Thesis

#### Under evaluation by the jury as of September 3rd 2020

- 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](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

**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.

## Referees

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