# CV – Alexandre Mercier-Aubin

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

## 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 developper 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 Robotic et Vision Industrielle
*Intern/Programmer*

Machine learning applied to Computer Vision.

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| **2016/05 -**<br>**2016/09** | Valero, Levis<br>*computer science intern* |
| | Translate programs from Visual Basic to C#. |
| **2015/05 -**<br>**2015/09** | Consortium Cooperatif de Services Fédératifs<br>*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*

- **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. 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. 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` (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

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| **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 |