CV – Alexandre Mercier-Aubin

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Google Scholar https://scholar.google.ca/citations?user=N3Yv5IcAAAAJ

Personal Profile

I am a PhD candidate ABD. My fields of study include computer graphics, physical simulation, optimization and algorithm design, as well as constraint programming. My field of research allows me to choose abstract topics while visualizing the results interactively. My work in computer graphics combines a certain artistic, sometimes even creative, level with the desire to advance the field. My results have led to applications both in surgical simulators and in more recreational contexts such as films and video games.

Education

2020-2024   PhD in Computer Science - McGill University

ABD
GPA: 3.90

2019-2020   M. Sc. in Computer Science - Université Laval

Research in constraint programming with Prof. Claude-Guy Quimper
GPA: 3.93

2017-2019   B. Sc. in Computer Science - Université Laval

honors
GPA: 3.73

2014-2017   DEC in Computer Science - Cégep Lévis-Lauzon

Teaching

2020   McGill
2023   *teaching assistant and AGSEM delegate*

Hold office hours, mark exams, and present various guest lectures for the courses on computer graphics, computer animations, and introduction to computer systems.

Université Laval
2020   *teaching assistant*

Teach the practical aspect (weekly labs) of the advanced programming in C++ course. Mark the exams in the computer graphics course. Support students at the help centre for computer science students (CARÉ) with questions related to 15 different computer science courses.

Industry

2024/05   Autodesk
2024/07   *Research Intern*

Rigid body differentiable simulations for surface optimization.

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 compatibility, etc.
2017/01 - **2017/08**	Centre de Robotique et Vision Industrielle *Intern/Programmer*
	Machine learning applied to Computer Vision, program robot controllers, and develop a new website for employees.
2016/05 - **2016/09**	Valero, Levis *computer science intern*
	Translate programs from Visual Basic to C#.
2015/05 - **2015/09**	Consortium de ressources et d'expertises coopératives *IT Technician*
	IT support, creating and managing a database, creating a web site, etc.

Prizes and Scholarships

- **Fonds de recherche du Québec (FRQNT): 2nd and 3rd cycle scholarship**

  25 000$ *per year, up to 3 years*

- **Natural Sciences and Engineering Research Council of Canada (NSERC) Alliance Grant**

  15 000

- **Bourse de doctorat Hydro-Québec en Science**

  15 000$ *per year, up to 2 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$

Research

In order to offer free and open access to scientific innovations, all my publications are listed free of charge on my website: alexandremercieraubin.com/Work

Leadership

- **Undergraduate Projects**

  Gaudrophone, BigData7027, and ComputerGraphics, etc.

- **Valleyfield Game Jam**

Other Projects

- **Engines**

  -Adaptive Rigidification Engine
  -A simple computer graphics engine

- **Video Games**

  -Call of Duty: Black Ops 4
  -Proto-Spyder Assault, 48h Valleyfield game dev contest
  -SansFin, french horror game, Cegep school project

Service

AGSEM Delegate: Delegate of the Computer Science department 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.
Volunteer at Lévis: Receptionist at the Water Festival of Lévis.
Student volunteer at SCA 2020 and 2024: Support the conference by ensuring the smooth functioning of operations in technical paper sessions and main exhibitions.
Reviewer: review papers for IEEE Transactions on Visualization and Computer Graphics (TVCG)

Referees

Name	Paul G. Kry
Company	McGill
Position	Associate Professor
Contact	kry@cs.mcgill.ca

Name	Sheldon Andrews
Company	École de technologie supérieure
Position	Associate Professor
Contact	sheldon.andrews@etsmtl.ca

Name	David I.W. Levin
Company	University of Toronto
Position	Associate Professor
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