

Karl-Etienne Bolduc

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MENTION AND GRANTS

- NSERC-USRA - Undergraduate Student Research Awards (5000\$), IVADO - Undergraduate Research Initiation Grants (6000\$) and FRQNT - Supplements of the NSERC Undergraduate Student Research Awards in 2020 (1500\$)
- 6 mentions of excellence at university of Montreal

FORMATION

University of Montreal Montreal
Master's degree in Computer Graphics GPA : 4.3 | Expected to graduate in 2023

- Advised by Pierre Poulin

University of Montreal Montreal
Bachelor's degree in physics and computer science GPA : 4.14/4.3 | Completed Credits: 91/90 | Graduated in May 2021

Collège de Maisonneuve Montreal
Computer Science and Mathematics Cote R: 34.1 | August 2016 - June 2018

VOLONTARY

Quart de nuit Montréal
Co-organizer Mars 2020 - Mai 2020

Organization of an event bringing together several members face-to-face in order to promote group games.

Room rental and specialized equipment

Creation of a digital platform for member registration

Cancellation due to the pandemic. Impossibility of taking place face-to-face.

Université de Montréal Montréal
Support February 2019

Elaboration and Presentation of competition

Assistance to students in difficult times.

Robin des Bois Montréal
Serveur June 2016

Coordination of multiple tasks under pressure

Opération Père Noël Montréal
Serveur November 2015

Quality verification of Christmas toys

Christmas Toy Quality Checking and Christmas Toy Packing for families in need.

Vélo Québec - Tour de l'île Montréal
Guide June 2016

Collaboration, guidance and support of participants.

Vélo Québec - Tour de l'île Montréal
Guide June 2015

Collaboration, guidance and support of participants.

WORK EXPERIENCE

UdeM - Computer Graphics

Teaching Assistant

Montréal

Sept 2022 - December 2022

- Preparation of classroom exercises
- Development and correction of TP2 - Raytracing in C++

Ubisoft Montréal - La Forge

Generalist Programmer Intern R&D

Montréal

May 2022 - October 2022

Worked with the Environment team under the supervision of Amir H. (Shahin) Rabbani and Damien Rioux-Lavoie

- Study and explore ideas to extend Compact Poisson Filters for arbitrary surfaces.
- Maintain a small blog on my advancements and related problematics
- Work with common frameworks such as CUDA, Libtorch and Libigl

UdeM - Programmation 1 (Neuroscience)

Teaching Assistant

Montréal

Sept 2021 - Janvier 2021

- Preparation of classroom exercises and In-Class demonstration
- Development and Correction of assessments

UdeM

Intern in Physics

Montréal

May 2020 - August 2020

With Normand Mousseau as my director, my research focused on the use of machine learning to replicate atomic potential while reducing computing time.

- Developed programs with NumPy, Pandas and PANNA built on top of tensorflow 1.5.
- Generated data with Lammmps for PANNA to validate efficiently our model. We aimed to use Quantum Espresso to generate data more accurately, although computing time could take several days for a large number of atomic particles.
- Worked with Git and Gitlab.
- Awarded scholarship for my internship.
- Familiarized with the scientific world and academia.

Hackathon 2019 (UdeM)

Support

Montréal

February 2019

My role in the organization was to guide CEGEP students (equivalent of last year in high school and first year of university) through the Hackathon 2019 competition.

- Prepared the competition before the arrival of participants.
- Supported students in difficult tasks.
- Communicated concepts to master for the competition.

LRIMA - Collège de maisonneuve

Apprenticeship

Montréal

Jan 2018 - Jun 2018

My role as a research assistant was to develop a solution for the organization and optimization of parking spaces in dense areas with vehicles equipped each with a communication protocol. <https://lrima.cmaisonneuve.qc.ca/>

- Gained knowledge about Java and his graphics library.
- Developed a taste for research.
- Learned autonomy and the importance of hard work.

College de maisonneuve

Mathematic Tutor

Montréal

January 2018 - May 2018

- Helped student in their difficulties and their homework

PARTICIPATION

Hackathon 2017 & 2018

University of Montreal

Montreal

February 2017 & 2018