

# Robin Leman

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## EDUCATION

### McGill University

B.S. in Physics and Computer Science

Overall GPA: 3.90/4.00

May 2022

Montreal, Canada

## SKILLS

**Programming Languages:** C++, Java, Python, C#, C, JavaScript, OCaml

**Operating Systems:** Linux, MacOS, Windows OS

**Tools & Softwares:** Unity, Unreal Engine 5, Perforce, Git, HTML, CSS, Bash

**Languages:** English, French (Bilingual)

## WORK EXPERIENCE

### The Coalition - Microsoft Xbox

Software Engineer Intern - Engine Team

May 2021 - August 2021

Vancouver, Canada

- Optimized Unreal Engine 5 to exponentially accelerate debugging and workflow time.
- Profiled new UE5's Chaos and Nanite systems to measure their performances on Xbox and PC.
- Cooperated with the physics team to implement procedural collision volumes and Ragdoll states.

### Ubisoft

Generalist Programmer Intern

June 2020 - August 2020

Montreal, Canada

- Designed a buoyancy simulation algorithm in C++. Optimized it to 60 FPS real-time performances.
- Implemented visualization tools to improve testing and debugging workflows, preventing re-compilation.

## PERSONAL PROJECTS

### Achilles 🐘 | 3D Physics Engine - C++

- Designed a real-time Physics Engine in an Entity-Component-System architecture.
- Implemented translational and rotational dynamics, collision detection and response, and softbody simulation for ropes and cloth.

### Multithreaded Raytracer 🐘 | C++

- Designed a ray-tracing render engine from scratch in C++.
- Linearly accelerated its rendering time using multi-threaded concurrent programming,

### Meme Popularity Predictor 🐘 | Machine Learning - Python, Tensorflow

- Designed a Convolutional Neural Network model to predict the popularity of a meme with a 65% accuracy.
- Took part in a 10 weeks machine learning bootcamp; implemented Naive Bayes, PCA and SVM models.

### GetOut 🐘 | Ubisoft Competition - Unity3D - C#

- Published a Puzzle 3D platformer video game in a team of 8 in 10 weeks.
- Designed and optimized 3Cs, Artificial Intelligence (State Machine) and networking for multiplayer.

## LEADERSHIP & VOLUNTEERING

### GameDev McGill 🐘 | President (2021-Present), VP Internal (2020-2021), Member (2019-2020)

Leading a team of 10 executive members to organize events for 100+ members of a game development student association. Organizing McGame Jam, a 48h hackathon uniting 150+ hackers.

### McGill Robotics | Software Engineer Team (2021 - Present)

Designing the software of an Autonomous Underwater Vehicle for a international team competition.

### Red Cross | Volunteer (2021 - Present)

Emergency responder volunteer. Certified "Emergency First Aid CPR/AED - Level C".