Robin Leman

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EDUCATION

McGill University | **Graduation: May 2022**

B.S. in Physics and Computer Science. Cumulative GPA: 3.90/4.00 | *Montreal, Canada*

Teaching Experience: "Algorithm and Data Structures" tutor in Winter 2021.

SKILLS

Programming Languages: C++, Python, C#, C, Java, JavaScript, OCaml
Graphics & Game Development: Unreal Engine 5, Unity, OpenGL, Blender
Tools: Perforce, Git, HTML, CSS, Bash
Languages: English, French (Bilingual)

WORK EXPERIENCE

The Coalition - Microsoft Xbox | May 2021 - August 2021

Software Engineer Intern - Engine Team | *Vancouver, Canada*

- Built tests and debugging tools for the Unreal Engine 5 physics system.
- Profiled new UE5's Chaos and Nanite systems to measure their performances on Xbox and PC.
- Implement procedural collision volumes and Ragdoll states in cooperation with the Physics Team.

Ubisoft | June 2020 - August 2020

Generalist Programmer Intern | *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.

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++.
- 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#

- Built 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 (October 2021 - Present)

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

Red Cross | Volunteer (June 2021 - Present)

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