Robin Leman

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WORK EXPERIENCE

Relic Entertainment - SEGA June 2022 - June 2023
Associate Programmer - Engine Team (Gameplay Systems) *Vancouver, Canada*

- Shipped *Company of Heroes 3* on PC and consoles, fixed and sanitized gameplay and animation code.
- Implemented performant and highly scalable gameplay systems in a deferred architecture.
- Designed QuadTree and HFSM data structures in an ECS architecture utilizing the entt library.
- Maintained and optimized by 25% StateTree systems in a multi-threaded environment.
- Built workflow and testing tools to significantly reduce design, programming, and debugging time.

The Coalition - Microsoft Xbox May 2021 - August 2021
Software Engineer Intern - Engine Team *Vancouver, Canada*

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

Ubisoft June 2020 - August 2020
Gameplay Programmer Intern - Unannounced Game *Montreal, Canada*

- Designed a 60 FPS voxel based buoyancy simulation algorithm in C++ with Havok in an ECS architecture.
- Implemented visualization tools to improve testing and debugging workflows for Snowdrop Engine.

EDUCATION

McGill University September 2019 - May 2022
B.S. in Physics and Computer Science. GPA: 3.82/4.00 *Montreal, Canada*

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

SKILLS

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

PERSONAL PROJECTS

Debris Disk Simulation | C++, OpenGL, GLSL Shaders

- Designed a real-time 3D rendering engine with OpenGL to visualize debris disks in solar systems.
- Optimized the engine with multi-threading and GPU programming to support different scattering functions.

Achilles | 3D Physics Engine - C++

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

Meme Popularity Predictor | Machine Learning - Python, Tensorflow

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

LEADERSHIP & VOLUNTEERING

GameDev McGill | President (2021-2022), VP Internal (2020-2021), Member (2019-2020)

- Led a team of 10 executives to organize events for 100+ members of a game development club.
- Organized McGame Jam, a 48-hour hackathon uniting 150+ hackers.

Red Cross | Volunteer (June 2021 - June 2022)

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