

SAMUEL LAPORTE

Junior Software Engineer

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📍 Montréal, Canada

STRENGTH



Effective problem solving

When faced with complex challenges, I demonstrate creativity and perseverance to find effective and pragmatic solutions, leveraging my analytical skills and critical thinking.



Promoter of technological advancement

Driven by a passion for new technologies, I am constantly on the lookout for the latest advances and I am committed to integrating them strategically to stimulate innovation and improve our solutions.



Active collaboration and communication

I try to foster an open environment where we can harness each other's individual strengths to solve problems collectively.

PERSONAL PROJECTS

Design of a Raytracing machine: Nori

Student exchange project with renowned researchers from EPFL, NVIDIA and Intel Graphics

- Implemented key features like point light, dielectric materials, lighting by environment, warping by normals, etc.
- Optimized software performance with multi-threading
- Optimized the performance of the algorithm with the integration of versatile multi-threaded data structure (Octree)

Conception d'un engin de jeu: OlympusForge

Ongoing design and development of a game engine to deepen my knowledge of game software development

- Development of robust systems, including ECS systems, platform-independent APIs and multi-threaded job systems
- Research and implementation of best practices to design robust and scalable applications
- Experimenting with shaders (GLSL) to optimize graphics performance
- Design of camera systems (orthographic, perspective) to optimize the user experience
- Gaining a better understanding of software already available (like Unity or Unreal Engine), which allows me to use it more intelligently

EXPERIENCE

2024 - 2024

Montreal, QC, Canada

- Final study project: DevOps

CAE

Led a team of 4 members as part of a student project aimed at adding Linux support for an internal builder (Java application).

- Analyzed and documented the project needs according to client requests
- Created UML diagrams to represent the application architecture.
- Modernized the architecture following current design patterns.
- Documented and implemented changes to improve maintainability and scalability

EXPERIENCE

2022 - 2022

Montreal, QC, Canada

- Full Stack Intern

Uzinakod

4-month internship to develop a web application in a team of 8 developers

- Developed software using *Angular* and *.NET* in close collaboration with the team
- Verified the code quality of my peers through pull requests
- Created and maintained unit and integration tests with *Cucumber*
- Observed inefficiencies in the development process. Presented the use of DevContainers and Docker as a new development tool in a meeting with team leads

2021 - 2021

Joliette, QC, Canada

- Analyst/developer intern

Bridgestone

4-month internship to develop a security camera visualization application

- Developed a web application allowing the distribution of security cameras with *AngularJS* and *.NET*
- Tested the performance of the web application in production (latency, bugs, etc.)
- Prototyped computer vision defect detection software with *OpenCV*
- Participated in additional projects, analyzing various software for collecting temporal data
- Présenté les résultats et les connaissances acquises au directeur et au superviseur du département

EDUCATION

2020 - 2024

- Bachelor of Software Engineering

Polytechnique Montréal

- Video Game Architecture (LOG8715)

2023 - 2023

- Échange étudiant

Swiss Federal Institute of Technology, Lausanne

- Advanced Infographics (CS440)
- Parallelism and Concurrency (CS206)

SKILLS

Unity3D

Unreal Engine

C#

C++

Cross-Platform Development

Agile Development (Scrum)

Java

JavaScript

SQL

Angular

Blazor

.NET

Visual Studio