Laurent Voisard

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Profile

Master's student in Computer Science graduating in May 2026, seeking full-time roles starting in the spring. Passionate about game/engine development and rendering, with active participation in game jams and computer graphics projects.

Skills & Technologies

Programming: C++, C, C#, Java, Rust, GLSL

Technologies: Unity, Godot, OpenGL, Unreal Engine

Languages: French, English: Fluent; Spanish: intermediate

Experience

Undergraduate Research Assistant - NSERC *Montréal, QC, Canada*
Concordia University *May 2023 – May 2024*

- Developed two virtual reality applications in Unity to study how hand-visibility styles affect motor dexterity performance.
- Published two first-author papers and presented them at IEEE ISMAR 2023 in Sydney, Australia, and IEEE VR 2024 in Orlando, USA.
- Published a second-author paper that was published at IEEE ISMAR 2025.
- Collaborated with researchers on experimental design, data analysis, and user-study implementation.

Teaching Assistant - COMP 371: Computer Graphics *Montréal, QC, Canada*
Concordia University *Jan 2024 – May 2024*

- Led weekly 2-hour lab sessions covering OpenGL, transformations, shading, ray-tracing, and other real-time graphics concepts.
- Held weekly office hours, assisting students with assignments, debugging, and project guidance.
- Evaluated exams, labs, and project submissions for a demanding upper-year computer graphics course.

3D Software Developer Intern *Montréal, QC, Canada*
Prevu3D *Jan 2022 – Aug 2022*

- Implemented and maintained features for a 3D visualisation platform, including an application updater and configurable settings system (C#, Unity).
- Developed front-end and back-end components for cloud features using NestJS, Vue, MySQL, and AWS.
- Collaborated with designers and developers on software architecture and feature planning.

Programmer Analyst Intern *Montréal, QC, Canada*
Circle 6 *2020 - 2021*

- Worked on web tooling and internal systems using C#, .NET Core, AngularJS, and PostgreSQL.

Projects

ECS Survivors *github repo*

- Continuous development of a survivors-like game. Features custom physics, custom GUI framework, player progression, and continuous polishing/refactoring.
- Tools Used: C++, Raylib, Flecs ECS.

CG-WFC *blog post*

- Submitted this work to ICSE 2026 workshop Games and Software Engineering.

- Developed a tool to create procedural levels using two techniques, cyclic-graph generation (graph-grammar), and wave function collapse.
- Tools Used: C#, Godot, GDScript

Smooth Particle Hydrodynamics-based Erosion Simulation *github repo* *2023*

- Created for Computer Animations for Video Games class.
- Features terrain generation, force-based erosion, real-time SPH water simulation with accelerating structures, ability to import real-life terrain (or any heightmap), terrain and water paint brush, as well as dynamic control over the simulation with UI.
- Tools Used: C++, OpenGL

For an extensive list of my work, consider visiting my portfolio

Awards

Concordia Merit Scholarship - Award valued at **$5000** *2024*
NSERC - Undegraduate Research Award valued at **$8120** *2023*
Champlain College Honour roll *2018 - 2020*

Education

Concordia University, Montréal, QC, Canada *May 2024 – Apr 2025*
Master's in Computer Science

- Current GPA: 4.2/4.3
- **Research Topic:** Entity Component System

Concordia University, Montréal, QC, Canada *Sep 2020 – Apr 2024*
BS in Computer Science (Computer Games) Co-op

- GPA: 3.48/4.3 (with distinction)
- **Coursework:** Computer Graphics, Game Development, Computer Animations

Champlain College, Saint-Lambert, QC, Canada *Sep 2017 – May 2020*
Technical DEC in Computer Science

- **Coursework:** Game Development, Object-Oriented Programming, Databases, Web Development

Publications

Adaptive Hand Visibility for Accurate 3D User Interactions in Virtual Environments 2025

Rumeysa Turkmen, ***Laurent Voisard***, Marta Kerten-Oertel, Anil Ufuk Batmaz

10.1109/ISMAR67309.2025.00015

A Mapping Study of the Entity Component System Pattern 2025

Laurent Voisard, Henrique D.F. Serra, Fabio Petrillo, Yann-Gael Guéhéneuc

10.1109/GAS66647.2025.00010

Subtask-Based Virtual Hand Visualization Method for Enhanced User Accuracy in Virtual Reality Environments 2024

Laurent Voisard, Amal Hatira, Mohammad Raihanul Bashar, Mucahit Gemici, Mine Sarac, Marta Kereten-Oertel, Anil Ufuk Batmaz

10.1109/VRW62533.2024.00008

Effects of opaque, transparent and invisible hand visualization styles on motor dexterity in a virtual reality based purdue pegboard test 2023

Laurent Voisard, Amal Hatira, Mine Sarac, Marta Kereten-Oertel, Anil Ufuk Batmaz

10.1109/ISMAR59233.2023.00087