

Ricardo Andres Ramirez

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SKILLS

Programming Languages: C++, C#, C, Java, Python, JavaScript, Lua/Luau, SQL, GLSL, HLSL

Frameworks & Libraries: .NET, React, Next.js, Avalonia, Unity, Unreal engine, OpenGL, Vulkan, Shaderc, Tailwind CSS

Databases: MySQL, SQLite, Supabase

Tools & Development: Git, CMake, Docker, Cloudflare, Android Studio, Jira, Figma

PROJECTS

Game Engine in C++ | Vulkan and OpenGL

2023-2025

- Clear game-engine separation code for fast compilation and iteration with a **Cmake** build-system.
- abstracted graphical interface allowing it to switch between **OpenGL** and **Vulkan**.
- Designed and implemented a custom data-oriented **Entity Component System** (ECS) architecture inspired by enTT.

Realtime Kerr-Newman Black hole Simulation

- Designed and developed using Compute shaders in **GLSL** and Ray marching in my personal **C++** game engine
- Running realistic **Kerr-Newman metric simulation** with **volumetric ray marching** in real-time at high fidelity.
- Studied and implemented several light effects unique to a spinning singularity into the shader.

Gameplay programmer for a Roblox game with over 150 000 visits

[game link](#)

- Collaborated with a team to design, implement and maintain a Roblox game reaching **over 150 000 player visits**.
- Developed new optimized gameplay systems and backend logic using **Lua** based on user feedback.

ACADEMIC PROJECT

Public Student Forum Application

2026

- Supervised and managed the project and the development team using the **Scrum methodology**
- Developed a **.NET REST API** backend in **C#**, hosted on a **Docker container** in a **Proxmox** virtual machine, public via a **Cloudflare tunnel**
- Developed the application on **Android Studio** in **Java**, and on the web in **React**
- Integrated a **JWT authentication** system with an **instant messaging system** and a **Supabase database**.

WORK EXPERIENCE

Pharmaprix clerk and cashier

Since 2023

- Advise and inform the customers regarding the product specifications.
- Took care of the merchandise and displayed it with customer habits in mind
- Operated the store's inventory management system and researched information on seasonal products.

CLUB INVOLVEMENT

Conjure Game development club (Member)

Since 2025

- Participating in gamejams with other club members for events.
- Currently working on game for the biggest lan party event in canada ([lan ETS](#)) with a team of 9
- Attend weekly club management meetings and game jam meetings.

Évovélo Human-Powered & Electric Vehicle Club (Member)

Since 2026

- Design of a real-time telemetry system in **C** using STM32 and **avalonia** for application

EDUCATION

École de technologie supérieure (ETS), Montréal – Bachelor's in Software Engineering

Expected 2029

Collège Bois-de-Boulogne, Montréal –DEC in Computer Science and Mathematics

2025