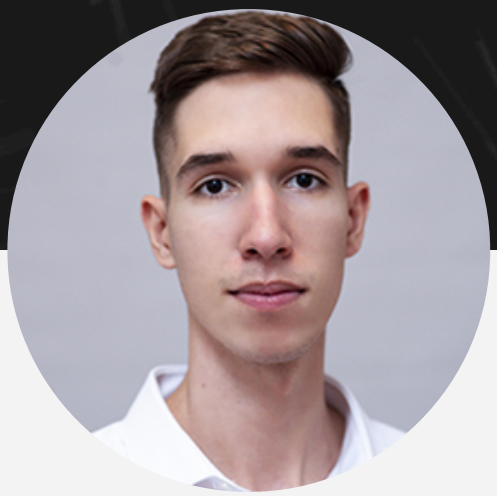

RAREȘ DUMITRU

GRAPHICS PROGRAMMER

ABOUT

I'm a self-motivated third-year Creative Media & Game Technologies student at Breda University of Applied Sciences, specializing in real-time rendering and graphics programming. With hands-on experience in engine architecture, tools development, performance optimization, and gameplay coding, I adapt quickly to new requirements and technical challenges.

SKILLS

- C++
- GLSL/HLSL
- Vulkan
- OpenGL
- Unreal Engine
- Git/GitHub/Perforce
- SCRUM
- Visual studio
- RenderDoc
- Nvidia Nsight

CONTACT

+40 773 345 002
contact@rares-dumitru.dev
https://www.rares-dumitru.dev/

PROJECTS

BLIGHTSPIRE *Team Size: 10* 09/2024 - PRESENT

- Working as a **flexible developer** on a **one-year project**, I've developed graphic features such as **shadow rendering** and **stylized shaders**, engine features such as **implementing physics and collisions,** and even gameplay elements such as **creating a fast-paced, Quake-inspired movement** for our player.

CA-GI *Team Size: Solo* 09/2024 - PRESENT

- My **personal research** project that aims at solving an approximation of **global illumination** in a **noise-free** manner using **only cellular automata in compute shaders.**

CT-CA-GI *Team Size: Solo* 04/2024

- Presented at **GPC (2024)** as an **innovative noise-free** solution for **global illumination** using **cellular automata** for initial propagation and **cone tracing** to gather the first bounce information.

OWLET *Team Size: 13* 05/2024 - 07/2024

- Creating graphics features and tools such as a **Grass system, Particle system, Material system, post processing tools, and shaders** for an RTS game inside a custom **C++** game engine using **DirectX12 and hybrid ray tracing.**

RVOX *Team Size: Solo* 01/2024 - 03/2024

- Familiarizing myself with **ray marching and compute concepts** by creating a **custom voxel renderer** using **OpenCL** and **C++** with stylized **per-voxel lighting** effects.

LAMBDA ENGINE *Team Size: Solo* 09/2023 - 01/2024

- **Learning game engine architecture** by making a custom **C++ game engine** that supports serialization, a CPU-based particle system, **resource manager**, **Lua scripting**, **ECS integration using entt**, **complex scene hierarchies**, and much more.

MOWDOWN *Team Size: 12* 06/2023 - 08/2023

- **Working closely with people across disciplines** to create a thrilling couch PvP game that combines strategic movement, intense battles, and the whimsical world of Victorian gardens.

2D RAY TRACER *Team Size: Solo* 04/2023 - 06/2023

- Exploring fundamentals of **ray tracing** while optimizing everything in **C++** to run **entirely on the CPU.**

EDUCATION

BREDA UNIVERSITY OF APPLIED SCIENCES

Bachelor 2022 - 2026

- Specialization: Creative Media and Game Technologies
- Focused on: Graphics Programming | Engine Development | Game Development

GRIGORE ANTIPA COLLEGE OF SCIENCES BRAȘOV

High School 2018 - 2022

- Specialization: Mathematics and Informatics