

## **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.

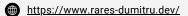
## **SKILLS**

- 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





# RAREȘ DUMITRU

## **GRAPHICS PROGRAMMER**

## **PROJECTS**

BLIGHTSPIRE Team Size: 10

 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.

09/2024 - PRESENT

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 BRAŞOV

High School 2018 - 2022

• Specialization: Mathematics and Informatics