



# TIMETHY Hyman

## Graphics Programmer

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## TECHNICAL SKILLS

Programming Languages  
C++, Rust, GLSL/HLSL

Graphics APIs  
DirectX 12, Vulkan, OpenGL

Platforms  
Playstation 5, PC, VR

Rendering Techniques  
Ray Tracing, Deferred Rendering, PBR

Game Engines  
Unreal Engine, Godot, Custom Engines  
Advanced Topics  
Volumetric Rendering, DLSS, Engine Development

## LANGUAGE

English	Dutch
Papiamentu	Spanish

## OTHER ACTIVITIES

Volleyball Coach  
at Breda University of Applied Sciences  
where I help train the university team

Piano  
as a hobby, I always enjoy working on  
learning new pieces

## ABOUT ME

I'm a 3rd year graphics programming student at Breda University of Applied Sciences who loves working on rendering engines and graphics technology. I enjoy diving deep into the math behind graphics and learning new techniques. Right now I'm at Traverse Research where I get to research and implement modern rendering methods. I have solid experience building custom engines from scratch and extending existing ones like Godot.

## WORK EXPERIENCE

### Graphics Programming Researcher

Traverse research  
Current position

Working on research and development of advanced rendering techniques. I focus on implementing new algorithms and optimizing real time rendering pipelines using DirectX 12 and Vulkan. Get to work on cutting edge graphics tech and see it come to life.

### Snipes supervisor & assistant

SNIPES Tilburg & Breda  
2020-2025

During my time as a supervisor I learned useful skills that can be applied to the industry, such as teamwork and leadership, while working in a team to reach a common goal.

## EDUCATION

### Bachelor of Science in Graphics Programming

Breda University of Applied Sciences  
3rd Year Student

During this bachelor I focused on graphics programming, rendering techniques, and engine development. Heavy emphasis on math fundamentals and computer graphics theory combined with practical implementation.

### Primary School Teacher Education (PABO)

Fontys University of Applied Sciences  
2021-2023

During my time here, I developed strong communication, leadership, and teamwork skills, with experience explaining complex concepts clearly.

# KEY PROJECTS

## Voxel Based Volumetric Fog

Traverse Research  
January 2026 - ongoing

Built a real time volumetric fog system with god rays using froxel based techniques. Created an atmospheric rendering system optimized for modern graphics pipelines with temporal reprojection for smooth results.

DirectX 12    Volumetric Rendering    Real time

## DLSS Integration

Traverse Research  
July 2025 - August 2025

Integrated NVIDIA DLSS into the Traverse rendering framework. Got it working with both DirectX 12 and Vulkan backends to boost performance while keeping visual quality high.

DirectX 12    Vulkan    DLSS    Performance

## Ascension Protocol VR Game

University Project  
June 2025 - July 2025

Made a complete VR game using our own custom engine. Handled all the graphics programming including the rendering pipeline, VR integration, and optimizing everything to run smoothly in VR.

Custom Engine    Game Development    VR

## Raytracing in Godot

University Project  
September 2025 - October 2025

Extended Godot Engine with hardware raytracing using Vulkan ray tracing extensions. Set up acceleration structures and shader binding to get real time ray traced rendering working in the engine.

Vulkan    Ray Tracing    Engine Extension

## EV Engine

Personal Project  
November 2025 - December 2025

Built a custom DirectX 12 rendering engine from scratch. Includes a modern rendering pipeline with descriptor management, resource state tracking, and various optimization techniques.

DirectX 12    Custom Engine    Rendering Pipeline

## Deferred Rendering on PS5

University Project  
September 2024 - October 2024

My first big rendering project where I implemented a deferred rendering pipeline on PlayStation 5. Got to explore console specific optimizations and learn about the PS5 graphics features.

PlayStation 5    Deferred Rendering    IBL    PBR

## Wasteland Walkers

University Project  
June 2024 - July 2024

Created a game in Unreal Engine with AI agents using machine learning techniques. Implemented MCTS (Monte Carlo Tree Search) for intelligent enemy behavior in a desert wasteland setting.

Unreal Engine    Machine Learning    Game AI

## Voxel Software Ray tracer

University Project  
September 2023 - October 2023

Built a CPU based raytracer from scratch. Implemented all the core raytracing algorithms including reflection, refraction, and various material types running entirely on the CPU.

Ray Tracing    CPU Rendering    Software Renderer