



# GUUS KEMPERMAN

## Engine Programmer



[in/guuskemperman](https://github.com/guuskemperman)



[guuskemperman.github.io](https://guuskemperman.github.io)

## PROFILE

Student at Breda University of Applied Sciences in Creative Media and Game Technologies. Skilled in Engine and Tools programming, with strong experience in engine development. Passionate about programming and proficient in C++. Additional experience with Unreal, AI and gameplay programming.

## RECENT PROJECTS

### Coral Engine - C++

2023 - 2024

Engine Programmer

- Designed and maintained a large codebase, from conception until release.
- Developed key systems like **reflection**, **visual scripting**, **serialization**, **prefabs**, **level editor**, **asset management**, **physics**, **particles** & more
- Integrated GitHub Actions for CI/CD and built a unit test framework.
- Contributed to cross-platform support, including PS5.
- Extensive profiling, benchmarking and **optimising**, including **multi-threading**

### Lichgate - Coral Engine

2024

Tools & AI Programmer

- Led a team of 5 programmers & managed task distribution
- Developed a Utility AI tools, and flow-field based AI navigation.
- Developed procedural world generation tool.

### Turbo Tails - Unreal

2022

Gameplay & AI Programmer

- Developed AI, local multiplayer systems, and core gameplay mechanics.
- Collaborated with UI designers to create in-game UI
- Collaborated in a team of 13 using Scrum methodology.
- Contributed to an award-winning game (Best Y1 Game 2023 & Best Tech Award).

### 2D Raytracer - C++, OpenGL

2022

Gameplay & Tools Programmer

- Developed a 2D GPU raytraced survival game (Spider Sling) with advanced optimizations in physics and graphics.
- Solo project, handling tens of thousands of objects with real-time reflections.
- Implemented **multi-threading**, **cache optimizations**, **a BVH and screen-space acceleration structures** for efficient raytracing.

## EDUCATION

### Creative Media & Game Technology - B. Sc BUAS

2021 - 2026

## EXPERTISE

### C++

5 years of experience. I attend local meetings, give presentations and write blogs about the language and it's features

### Cross-platform development

Windows, Linux and Playstation 5

### Unreal

2 years of Unreal C++ experience

### Engine Development

2 years of experience developing frameworks and engines

### STL, ImGui & EnTT Libraries

3-5 years of extensive usage, I actively follow their development

### Perforce - Github - CI/CD

3 years of experience working with source control, set up CI/CD pipelines through Github

### Profiling & Optimising

Able to use Data Oriented Design, multi-threading and SIMD to optimise bottlenecks

### Teamwork

1 year of experience working in different teams of 10-20 people on various game projects, both programmers and designers

## LANGUAGE

English - C2 (Native equivalent)

Dutch - Native

More details & projects: [guuskemperman.github.io](https://guuskemperman.github.io)