# **Lily Haverlag**

**Engine & Graphics Programmer** 

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## **About Me**

I have a passion for creating user-friendly tools and smooth experiences through low-level, performant, and readable code. With my proficiency in C, C++, and Rust, I enjoy the challenge of pushing hardware to its limits.



## **Education**

## **Breda University of Applied Sciences**

Bachelor of Creative Media and Game Technologies – Programming September 2020 – July 2024

## **Projects:**

## **University Projects & Internship**

#### - Sub Nivis

2022 | C++ | 20 people | 4 months

- Custom game engine in C++
- Retro style first person shooter game
- Created the rendering back-end code with OpenGL

#### - Metal render back-end

2024 | Rust | Internship | 10 months

- Porting an existing DirectX 12 render back-end to Apple's Metal API
- Strengthened my capabilities in memory safety and thread safety practices
- Learning to work with new APIs and tools in a short time

### **Personal Projects**

### Sub Nivis PlayStation 1

2024 (in progress) | C

- Rebuilding Sub Nivis from scratch in C
- Optimized to run in real time on PlayStation 1 hardware

#### DirectX 12 renderer

2024 (in progress) | C++

- 3D renderer from the ground up using DirectX and C++
- Game Boy Emulator

2022 | Rust

- Tested with original Super Mario Land, Pokémon Blue, Tetris ROMs
- Audio support

## **Skills**

- Programming languages: C, C++, Rust
- Graphics APIs: OpenGL, DirectX 12, Metal
- Tools: Git, Perforce, Jira (Scrum), Unreal Engine
- Languages: Dutch, English, French (limited)