



ELIAS FÜRICHT



About Me

Hi! My name is Elias and I am very passionate about **Computer Graphics**. Currently I am finishing my **MSc** in **Visual Computing** at **TU Wien**, working on my thesis about GPU-based collision detection and resolution on elastic polyhedra written in C++ and CUDA.

Skills

- Programming: **C++**, **GLSL**, **HLSL**, **TS**, **C#**
- GPU APIs: **CUDA**, **Direct3D12**, **OpenGL**
- Profiling: **NSight Compute & Systems**, **Superluminal Performance**
- Game Engines: **Unity**
- 3D Modeling, Animation & Rendering: **Cinema4D & Redshift**

Education

- **MSc Visual Computing**
Vienna University of Technology
October 2023 - September 2026
- **BSc Media Technology and Design**
University of Applied Sciences Upper Austria - Campus Hagenberg
October 2020 - June 2023

Professional Experience

Software Developer | Maxon Computer GmbH

Internship: July 2024 - September 2024

C++ - Parallel Programming - Profiling - XPBD

Key responsibilities:

- Developed **Fabric Brush** Tool, an interactive simulation-based geometry modeling tool **officially released** in **Cinema4D 2026.2**

3D Webdeveloper | pixelart GmbH

Internship: March 2023 - June 2023

TypeScript - Three.js - GLSL - Cinema4D - UX Design

Key responsibilities:

- Developed an **interactive 3D** web-based **mineshaft plan** **officially published** on the **customers website**
- Developed an interactive **shader-based 3D particlesystem**

Projects

Fast Polyhedral Dynamics: 2026
My master thesis project. Developing fast CUDA-based collision detection and resolution for arbitrary polyhedral meshes inside a Virtual Element Method simulation framework.

DirectX12-Engine: 2025
A Direct3D12 rendering engine built from scratch using C++ and Win32API. Supports .glb loading, normal mapping, PBR and root signature creation via shader reflection.

OpenGL-Demo: 2023-2024
A real-time OpenGL rendering demo built in C++, featuring directional and omnidirectional shadow mapping.

artisVR: 2022
A Unity VR app that lets users furnish rooms easily, using custom or predefined dimensions.

Virtual Gallery: 2021-2022
An interactive experience of the Media Technology & Design program at the University of Applied Sciences Upper Austria. Developed in Unity for VR and desktop, showcasing various course projects.