

JAKUB HLUSIČKA

📍 Prague, Czech Republic

✉ limeth@protonmail.com

🐙 github.com/Limeth

Computer Graphics Engineer

WHO AM I?

I am a computer graphics engineer interested in writing correct, secure, maintainable and well-documented software. I like to solve problems that require the use of parallelization and concurrency on the CPU or the GPU – be it rendering, image processing, or acceleration of existing algorithms, not necessarily related to rendering. My interest in mathematics, particularly geometry, makes designing novel visual effects appealing to me. I like to think I have a good eye for visual aesthetics, which is particularly useful when creating user interfaces.

I am self-sufficient, but excited to work in a team and learn new skills. I discovered my interest in programming at a young age – it became my venue of creative expression, and it motivates me towards mastery.

EDUCATION

- 2020 – 2022 **Master's Degree** Czech Technical University in Prague, Faculty of Electrical Engineering
I graduated with a master's degree in **Open Informatics** with a major specialization in **Computer Graphics** and additional courses focusing on **Cybersecurity**.
Thesis:
Simulating the Phenomena of Altered States of Consciousness using Virtual Reality
Unreal Engine / C++ / HLSL
- 2017 – 2020 **Bachelor's Degree** Czech Technical University in Prague, Faculty of Electrical Engineering
I graduated with a bachelor's degree in **Open Informatics** with a major specialization in **Computer and Information Science**.
Thesis:
A Platform for Virtual Reality Applications
Rust / WebAssembly / GLSL / Vulkan
- 2012 – 2017 **High School** Gymnázium Arabská
I completed matura with the following subjects: Czech language and literature (compulsory); Mathematics, English, and Information Technology (voluntary).
Final project:
Euclider – A Higher Dimensional Raytracing Prototype with Non-euclidean-like Features
Rust

EXPERIENCE

- 2022 (Q4) **Rust Developer** CDN77.com
I applied for the position of Video Engineering. I took part in the development of infrastructure for low-latency livestreaming using a content-delivery network, with focus on high reliability.
Rust / NVML / S3 / Docker / OpenTelemetry / Jaeger / Linux
- 2019 (Q3) **Cybersecurity Network Analyst** civilsphereproject.org
At this non-profit organisation, during a summer break in between my studies, I helped with analysing network traffic for signs of threat actors. I also developed tools and visualizations to aid in such analysis.
Splunk / Docker / Wireshark / Linux

TECHNOLOGIES

Proficient in and passionate about using:

- Rust
- WebGPU (both natively and on the Web)
- WebAssembly
- Shader Programming
- Virtual Reality

Proficient in:

- Java, C
- CUDA, OpenGL

Used: As shown in projects below.

- 2017 – 2018 **Back-end developer** cerstvasvaca.cz
 My responsibility at this food distribution start-up was the design and development of the back-end. This consisted of the creation of the database schema and an API front-end for user accounts and order processing.
 TypeScript / Node.js / MongoDB / GraphQL
- 2013 – 2015 **Developer** craftuj.cz
 part time
 Developer at one of the most popular Czech Minecraft servers at the time. My main responsibility was the development of a new server-side role-play-gaming plugin.
 Java / MySQL
- 2013 – 2017 **Founder, Full-stack developer** projectsurvive.cz
 part time
 During high school, I learned to create server-side mods for the video game Minecraft. I used the skills I learned and founded a "game server" around the idea of providing unique gameplay experiences within this game.
 Java / PHP / JavaScript / MySQL

NOTEWORTHY PERSONAL PROJECTS

- **obs-shaderfilter-plus**: A plugin for Open Broadcaster Software (OBS) that enables the user to apply custom fragment shaders as video filters.
 Rust / C / GLSL / HLSL
- **ruleseeker** and **ruleseeker-cuda**: Tools for finding interesting rules for 2D cellular automata. I made the former during a university course on Java, and the latter during a university course on General purpose GPU programming.
 Java / C / CUDA / OpenGL
- **dvsynth**: Ongoing project to create a graph-based real-time video compositor to be used as an alternative to the one OBS provides.
 Rust / WebGPU

LANGUAGES

Czech - native
English - proficient, B2 certified
German - basic

HOBBIES

I am passionate about creativity and artistic expression. Besides creating various software hobby projects, I also like to dabble in embedded programming, 3D printing and DIY technology.