

# Erwan VIVIEN

## Engineering student in Computer Vision and Computer Graphics at EPITA



### Education

**EPITA 5<sup>th</sup> year**, Paris

- Computer graphics major (image rendering / processing)
- International section
- Programming teaching assistant

**TOEIC**, score 920

### Work Experience

**EPITA**, Paris – Teaching assistant

Sept. 21 – Now

Selected to teach 3<sup>rd</sup> grade students C, C++, Java and JavaScript. In a team of 45, the role demands preparing subjects and exercises for over 800 students.

**Expleo group**, Dublin — Software developer

Sept. 21 – Feb. 22

Tool creation to **assist pentesters** in finding and patching vulnerabilities. Gathering, saving data to automate redundant checks, verifying if the cybersecurity vulnerability has been patched.

**CareGame**, Paris – Software developer

June 20 – July 20

Manipulating **GStreamer's** pipelines to add a timestamp to an input video stream. Processing the output's timestamp by integrating **Tesseract OCR** in order to estimate the streaming latency.

### Projects – All on GitHub

**QRCode Generator** – Rust

[erwanvivien/fast\\_qr](https://github.com/erwanvivien/fast_qr)

Implementation of ISO 18004 on my free time, with focus on CPU optimizations and WASM. This library is **~9x** faster than the standard Rust QRCode library

**Image Equalization** – Cuda

[erwanvivien/irgqua](https://github.com/erwanvivien/irgqua)

Usage of different patterns (Histogram, Scan, Reduce, Compact, Map) heavily optimized using decoupled loop-back.

**Raytracer** – Rust

[erwanvivien/isim\\_raytracer](https://github.com/erwanvivien/isim_raytracer)

Reflections, shadows, configurable scene using JSON. Can draw rectangles, spheres, planes and any recursive shape (Menger Sponge...)

**Game Engine** – Rust / WGPU

[erwanvivien/mjolnir](https://github.com/erwanvivien/mjolnir)

Backface Culling, Shaders, Instancing, Depth Buffer, Model loading with ambition to create a working game

**Video Codec** – Python

Educational implementation using macroblocks algorithm

**Raft Implementation** – Rust

[erwanvivien/algorep](https://github.com/erwanvivien/algorep)

Implementation of the Raft Consensus Algorithm. Works with more than 1000 servers.

**Harris corner Detect.** – Cuda

[Lycoon/harris-cuda](https://github.com/Lycoon/harris-cuda)

C++ and GPU implementation. Using GPU provided a x20 speedup

### Socials

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Linkedin: [erwan-vivien](https://www.linkedin.com/in/erwan-vivien)

Github: [erwanvivien](https://github.com/erwanvivien)

Online CV: [xiaojiba.dev/CV](https://xiaojiba.dev/CV)

### Skills

**Programming languages**

Rust, C++, C (Expert)

CUDA, C#, Python, Java, JavaScript,

TypeScript (Advanced)

**Utilities**

Git, Bash/Shell, NextJS (Expert)

Unity (Advanced)

**Business Skills**

Analytical, Communication,

Teamwork and collaboration,

Leadership, Autonomy

### Languages

French – Mother tongue

English – Fluent

German – Basic

Chinese – Basic

### Interests

Wall climbing

Open source

Sorting algorithms