

Martin Macé de Gastines

Software Engineer

Profile

Passionate about Graphic programming, I have done a 3 month research internship at KAIST, in Korea. I also have an experience of 3 years at ArianeGroup. I seek a job where I can take advantage of my diverse skills in graphic programming.

Experiences

Research internship in Visual Computing

KAIST :  June 2024 — Aug 2024  Daejeon, Korea

Implementation of RGBD scanning research article based on the Open3D library.

Features

- Raymarching in C++ and CUDA
- Depth integration on truncated signed distance field
- Color integration in texture tiles
- Usage of Open3D C++ API
- Processing Realsense 3D camera video input

Software Engineer in real time architecture

ArianeGroup :  Sep 2022 — Aug 2025  Les mureaux, France

Development of avionic simulation libraries and visualization module

- Development of network abstractions
- Development of simulation models
- Creation of rigid link in a 3D physics engine
- Development of a visualization module in Java with JMonkeyEngine
- Interfacing with lua scripts

Projects

Fractal viewer with LeapMotion interaction

Part of a school project in a group of 3 featuring raymarched fractals and 3D IFS fractals Developed in C++ with OpenGL, ImGui and LeapC

Features

- Raymarcher with phong lighting and soft shadows
- IFS renderer using chaos game method with phong and SSAO
- LeapMotion control using LeapC API

<https://github.com/pwouik/VisuDemo>

Raytracer

Programmed in C++ with OpenGL, ImGui

Features

- binary tree BVH construction and traversal
- path tracing
- reflections, refractions

Voxel engine


Voxel engine started in C++ with OpenGL as a personal project, then ported to Rust with wgpu


Features


- GPU driven occlusion culling and rendering
- Vertex Pulling
- Cubic chunks (infinite generation in all axis)
- Multi-threaded procedural generation
- World save to disk in region files


https://github.com/pwouik/rust_voxel_engine


Personal Info


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 <https://github.com/pwouik>

Education

Higher

CYtech (Ex EISTI)



Option Visual Computing

 Sep 2020 — Aug 2025  Cergy, France

Master's degree in IT engineering

High school diploma

Lycée Jean-Baptiste de La Salle Math specialty

 Sep 2017 — Aug 2020  Rouen, France





Interests

Fascinated about art and logic emerging from math and computing

Also passionate about long distance running, hiking, origami, clay modelling

Skills

Languages

French	
English TOEIC:965	
Spanish	
German	

Programming Languages

- | | | |
|--------|--------|------------|
| • C++ | • GLSL | • Python |
| • C | • WGSL | • Java |
| • Rust | • CUDA | • Assembly |

APIs / Libraries

- | | |
|-----------|----------|
| • OpenGL | • Open3D |
| • Vulkan | • ImGui |
| • WebGPU | • Box2D |
| • Keras | • LeapC |
| • Pytorch | |

Softwares

- | | |
|-------------|-----------------|
| • Unity | • Unreal Engine |
| • Blender | • Tracy |
| • Renderdoc | • Advanced |
| • Nsight | Linux |
| • Compute | knowledge |

VR construction game

Developed in unity with SteamVR on a HTC vive

Features

- object edition in grid
- grid rotation on joystick
- physics interactions with the built object

<https://github.com/pwouik/CubeEngineer>

Flight simulator

2nd year school project in C++ where I led a team of 5 people.

Features

- Realistic flight dynamics based on lift equations
- Rigid body impulse mechanics
- OpenGL rendering
- OBJ model loading with tinyobjloader