Martin Macé de Gastines

Software Engineer

Profile

Passionate about Visual computing, 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
- 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 with phong and SSAO
- LeapMotion control using LeapC API

https://github.com/pwouik/VisuDemo

Raytracer

Programmed in C++ with OpenGL, ImGui

Features

- bounding volume hierachy construction and rendering
- path tracing
- reflections, refractions

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

Skills

Languages

- French ●●●●●
- English TOEIC:965 ●●●●○
- Spanish ●●○○○
- German ●●○○○

Programming Languages

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

Graphic APIs / Libraries

- OpenGL
- Vulkan
- WebGPU
- Keras
- Pytorch
- Open3D
- Imgui
- Box2D
- LeapC

Softwares

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

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 saving in region files

https://github.com/pwouik/rust_voxel_engine

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 object loading with tinyobjloader