

PIERRE-JEAN MOREL

FINAL YEAR STUDENT OF COMPUTER SCIENCE ENGINEERING
FINAL YEAR STUDENT OF MASTER'S DEGREE IN GAME PROGRAMMING

I am actively looking for a 6 month end-of-studies internship in graphics programming

CONTACT

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Github

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LinkedIn

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PROGRAMMING SKILLS

Software development

- Cross-platform **C++/Qt**
- **Python** tooling
- **C** Linux system programming
- **C#/WPF** Windows development

Game development

- **C#/C++** with **OpenGL**
- **Unity3D** and **C#**
- **Godot Engine** and **C#**
- **Unreal Engine** and **C++/Blueprint**

3D programming

- **OpenGL** 3.x and 4.x
- **Direct3D** 11
- **GLSL** shaders
- **HLSL** shaders

LANGUAGES

French - Native language

English - C1 level | IETLS band 6.5 of 9

Spanish - A2 level | Everyday conversation

Japanese - Basic sentences (learning)

EXTRA-CURRICULAR ACTIVITIES

- Self-taught **guitar player** for 9 years
- **Basketball** for 2 years within a club
- Webmaster of **ENSEIRB's bar**
- **Skateboarding** / **Surfing** / **Snowboarding** / **Ice skating** on a regular basis

ACADEMIC BACKGROUND

COMPUTER SCIENCE ENGINEERING SCHOOL

2018 - 2023

at ENSEIRB-MATMECA, Talence, FRANCE.

Studied fields (2 years): Algebra, analysis, electromagnetics, quantum physics, mechanics.

Studied fields (3 years): Linux environment, **C** general and **system** programming, **OOP** in **C++** and Java, **computer architectures**, algorithms of tree structures, compilation, **OpenMP** and **OpenCL** parallel programming.

MASTER'S DEGREE IN GAME PROGRAMMING

2022 - 2023

at UQAC, Chicoutimi, Québec, CANADA.

Studied fields: **C++/Unreal** and **C#/Unity** programming, VR development, Network programming in **C++** and Unreal Engine, physics engine and graphics programming in **C++/OpenGL**.

EXPERIENCE

RESEARCH INTERNSHIP

June 2021 - August 2021

at LaBRI, Talence, FRANCE

- Combinatorics on d-dimensions **permutations**, Python module written
- Writing of a **scientific paper** on our work

<https://cs.uwaterloo.ca/journals/JIS/VOL25/Bonichon/bonichon3.html>

OPENGL 3D PROGRAMMER INTERNSHIP

June 2022 - August 2022

at Logyline, Mérignac, FRANCE

- Rewriting of a component based 3D renderer for a CAD software for pools in **OpenGL** and **C#/WPF** including **metal/roughness PBR**, planar **reflections**, GPU **instancing**, basic **water shader**, direct and indirect lighting (analytic lights and **IBL**), environment mapping, size adaptative **shadow maps**
- Development of a graphics abstraction layer over OpenGL/OpenCL ES/DirectX based on D3D11 API

PART TIME PIPELINE DEVELOPPER

October 2022 - June 2023

at **FOLKS VFX**, Saguenay, Québec, CANADA

- Everyday work with an **international team** based in Saguenay, Montréal, Toronto, USA, Mumbai, Bogotá
- **Agile** development workflow with **JIRA**
- **Python** and **C++** development of standalone or Maya/Houdini/Nuke tools for the VFX production pipeline at FOLKS supporting the workflow of all artists, editors, etc of the company

PROJECTS

GAMEPLAY AND NETWORK PROGRAMMER ON "ALKA" PROJECT (UQAC)

- 3D PvE multiplayer FPS developed by a team of about **10 artists and 6 programmers**, mentored by **Ubisoft Saguenay**
- **C++** programming inside Unreal Engine
- One quarter of pre-production and one quarter of production

HOMEMADE MODERN 3D RENDERER (PERSONNAL)

- **C++/D3D11** 3D renderer
- **ECS** based architecture with **EnTT**
- Model loading with **Assimp**
- **IBL/PBR** based rendering

PERFORMANCE IMPROVEMENTS ON THE "GAME OF LIFE" (ENSEIRB-MATMECA)

- Tiled implementation using on **CPU** and **GPU** with **OpenMP** and **OpenCL**
- Vectorized implementation with **SSE/AVX**