

Alexandre Marques Dias

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My portfolio website : <https://alexmdias.github.io/>

Programming languages

C++: Vulkan, OpenGL, GLSL, LibiGL, Skia, WebAssembly, Emscripten (With **javascript**)

Python : OpenCV, Numpy, Pandas, Boto3, Dash, SkLearn, BluePy , TensorFlow

C#: Unity

Other : Mathematica, Javascript, HTML/CSS, Bash, C, MIPS assembly

Knowledge

Programming: Algorithms, Data Structures, Artificial Intelligence (mainly computer vision)

Graphics: WebGL, OpenGL, Vulkan, GLSL, LibiGL, Threejs, Skia rendering engine, Shading, Real-Time Shaders, Raytracing, Path Tracing, Geometry processing, Calculus, Linear Algebra, Animation, Typography rendering, Blender, Unity, various computer graphics techniques

Computer Vision : OpenCV, Image processing techniques, Machine learning in computer vision

Software: Git, Github, Linux, MacOS, Windows, Amazon Web Services, Anaconda, Docker, Slack, Jira

Experience

Tales of War - C# Unity Graphics programmer

| March 2025 - June 2025 - Full-time

Worked on an upcoming multiplayer game at the Indie Asylum. Contracted to profile and optimize the game. Implemented a variety of optimization techniques to boost the game's performance to be run on low end hardware and on a multitude of various platforms.

Cosmographic - C++ Vulkan Graphics programmer

| March 2024 - december 2024 - Full-time

worked on [Space Engine](#), the most scientifically accurate space simulation software. I was on the rendering team to develop GPU-based computer graphics features for the engine using Vulkan and a lot of compute shader programming. Worked on a Vulkan RHI and implemented a variety of features.

Corel Corporation - C++ graphics R&D developer

| June 2022 - January 2023 - Full-time then part time

Employed to work on the CorelDraw graphics suite. I was tasked with developing typography rendering technology with the skia graphics engine (vector rendering, language encoding, font encoding, glyphs)

Aquassist, Magnus Produits Chimiques - Python developer for chemical analysis devices

| may 2021 - August 2021 - Full-time

National Research Council Canada (NRC) - AI Developer for a conversational agent in Unity

| June 2020 - June 2021 - Part-time

Education

University of Montreal, - Masters of Computer Science (in computer graphics) - 2022-2024

University of Montreal, - Bachelor of Computer Science - 2019-2022

Other Skills : Visual arts [portfolio](#)