

# Alexandre Marques Dias

Canada, Quebec, Montréal / (514)962-4172 / [amdias@protonmail.com](mailto:amdias@protonmail.com) / Languages : french, english, portuguese

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](#)