



MATHÉO JOSEPH

Master's student in Computer Science
at Polytechnique Montréal

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 MatheoJ

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SKILLS

Language: C++, C, C#, Java, Python, JS

Game Engine : Unity, Unreal Engine

Graphics API / Librairies : OpenGL, SDL, SFML

QT Framework

Docker, GIT

BLENDER

IDE : VS code, Visual Studio, Clion, Eclipse

MY PROJECTS

3D platform video games with Unity C#

Game where you play as a ghost, who can possess enemies and control them, fight, unlock skills.

Physics engine for 2D video games C++ and SDL

Engine implementing basic forces (gravity, friction, Archimedes), rigid body physics, collision resolution.

Procedurally generated 3D environment, OpenGL, C++

Display of 3D models, texture animation using shaders, stencil testing, illumination and 1st and 3rd person camera management.

Development of Intelligent Agents for video games, Unreal Engine, C++

Chasing, escape or autonomous movement behavior, with ray tracing or navmesh.

Compiler C, in C++ with the ANTLR library

Creation of an x86 compiler, implementation of all basic arithmetic operators, implementation of functions and tables

Ray Tracing renderer, C++, ImGui

Localized historical anecdote sharing website, React JS, Python

SPORTS AND HOBBIES

- Badminton
- Rock climbing
- Robotic and algorithm
- Hiking
- 3D modeling
- Video games

LANGUAGES

- French : Native Speaker
- English: Professional
- Spanish: Intermediate

EDUCATION

Polytechnique Montréal

Master's degree in computer science - double degree, September 2023 - present

- Artificial Intelligence in Digital Entertainment Option

INSA Lyon, France

Computer engineering degree, 2019 - present

- Ranking 5th out of 130

PROFESSIONAL EXPERIENCES


SOFTWARE DEVELOPMENT INTERNSHIP C++ / QT

 **Savoir Faire Linux at Montréal, Québec**

May 2023 to August 2023 (4 months)

- Worked in the development team of the JAMI distributed communication application
- Creation of the JAMI home page personalization functionality
- Unit and functional testing in C++ and in QML

SOFTWARE DEVELOPMENT INTERNSHIP C++ /SFML

 **LIRIS computer research laboratory in Lyon, France**

June 2022 to September 2022 (4 months)

- Development of a C++ application allowing the creation of unbeatable AI for the "k in a row" game family
- Collaboration with research engineers and algorithmic researchers
- Realization of a substantial end-to-end project, optimized application and parallelization of calculations


DEVELOPMENT OF A SENTIMENT PREDICTION MODEL AND API

 **Open Source politics in Paris, France**

February 2022 to April 2022 (3 months part-time)

- Working with an engineer from the data science team
- Development of a machine learning model with Sklearn (Python)
- Development of an API with flask (Python)
- Containerization with Docker of the project and put into production

ORDER RECEPTION OPERATOR INTERNSHIP

 **Rexel at Roissy-en-Brie, France**

July 2020

- Working in a warehouse
- Unpacking and sorting received items for storage

ASSOCIATIVE EXPERIENCES

FRANCE CUP OF ROBOTICS 2022 WITH CLUBELEK

- Participation to the programming of the club robot
- Computing Vision with OpenCV, (Python)
- Actuator control (C++)

GENERAL SECRETARY OF INSA TECH4GOOD (2022 - 2023)

- IT project management
- Customer prospecting
- Administrative management of the association

ORGANIZED AN ACADEMIC SEMINAR FOR EUROPEAN STUDENTS WITH BEST LYON (2023)

PARTICIPATED IN THE HACKATHON OF QUEBEC LINUX MEETUP (SEPTEMBER 2023)