MATHÉO JOSEPH

Master's student in Computer Science
at Polytechnique Montréal

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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

Data Base: MongoDb,

IDE : Vs code, Visual Studio, Clion, Eclispe

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

Localized historical anecdote sharing website, React JS, Python

Computer Vision for object detection on game board, Open CV, Python

SPORTS AND HOBBIES

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

LANGUAGES

- French : Native Speaker
- English: Professionnal
- 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
Febrary 2022 to Avril 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 withflask (Python)
- Dockerisation 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 Vison 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)