Yanisse FERHAOUI

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Skills

Programming languages: C/C++, Java, Python
Libraries: OpenMP, OpenCV, OpenGL, SDL2, QT, Pytorch, Tensorflow, Keras
Developer Tools: Git, Docker, VS Code, QT Creator, PyCharm, IntelliJ
Languages spoken: French (native), English (professional), Spanish (basic)

Experience

AI research internship February 2025 – July 2025
Institut Pascal - University Clermont Auvergne *Le Puy-en-Velay, France*

Topic: Language model integration in 3D Slicer.

- State of the art of research relevant to our problem.
- Implementation of the chosen solution. Including multi-GPU trainings.
- Development of a 3D Slicer module integrating the trained language model.
- Possible publication of an article in the Journal of Open Source Software.

PHP/Symfony Developer May 2023 – June 2023
AMS Association Mantes Solidarité *Mantes-La-Ville, France*

- Integration of a payment form.
- Implementation if a donation management interface for administrators.

Projects

GPU Programming and Rendering | *C++, OpenGL* December 2024 – January 2025

- Implemented compute shaders to efficiently parallelize the rendering pipeline, improving performance on complex scenes.
- Developed a deferred adaptive compute shading technique leveraging image interpolation to reduce redundant computations and optimize GPU usage.

Mesh and computation geometry | *C++* October 2024 – Present

- Load 3D files in .off format and connect all the vertices and faces.
- Laplacian operator and curvature calculation of a mesh.
- Elementary operations on triangular meshes (triangle split, edge flip).
- Implementing Lawsons' algorithm to obtain a "Delaunay" mesh.
- Transforming a point cloud into a triangular mesh.

Medical Imaging Research | *Python, Tensorflow, Keras* January 2024 – June 2024

- Automatic segmentation of the diaphragm.
- Deep learning with Transfer Learning techniques.
- 3D volume reconstruction of organs.

LEGO Robots Retrieving Balls | *C++, EV3Dev, OpenCV, Git* February 2024 – June 2024

- Programmed in C++ using the EV3Dev library.
- Used OpenCV for image processing.
- Combined 4 cameras to create an overhead view.

Education

University Claude Bernard Lyon 1 Villeurbanne, France
Master's in Computer Science, Image, Development, and 3D Technologies *September 2023 – September 2025*

University Claude Bernard Lyon 1 Villeurbanne, France
Bachelor's in Computer Science *September 2020 – July 2023*