

# Yannis FERHAOU

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## SKILLS

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**Programming languages:** C/C++, Python, Java

**Libraries:** OpenMP, OpenCV, OpenGL, SDL2, Qt, Pytorch, Tensorflow, Keras

**Version management and CI/CD:** Git, GitLab CI, Github Actions, Jenkins

**Developer Tools:** VS Code, Qt Creator, JetBrains IDEs, Docker, CMake, GoogleTest

**Languages spoken:** French (native), English (professional), Spanish (basic)

## EDUCATION

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**University Claude Bernard Lyon 1**

*Master's in Computer Science, Image, Development, and 3D Technologies*

Villeurbanne, France

September 2023 – September 2025

**University Claude Bernard Lyon 1**

*Bachelor's in Computer Science*

Villeurbanne, France

September 2020 – July 2023

## EXPERIENCE

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**AI research internship**

*Institut Pascal - University Clermont Auvergne*

Topic: Language model integration in 3D Slicer.

February 2025 – July 2025

*Le Puy-en-Velay, France*

- Explored and implemented the integration of LLMs into 3D Slicer.
- Trained deep learning models on multi-GPU setups.
- Development of a 3D Slicer extension who integrates the trained LLM.

**PHP/Symfony Developer**

*AMS Association Mantes Solidarité*

May 2023 – June 2023

*Mantes-La-Ville, France*

- Integration of a payment form and implementation of a donation management interface for administrators.

## PROJECTS

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**Mesh Viewer** | C++, Qt

- Developed a 3D visualization tool supporting multiple mesh formats (.off, .obj, .txt).
- Implemented export functionalities to save meshes in the same formats.
- Support for adding textures when the object allows it.
- Continuous deployment with Gitlab CI.

September 2025 – Present

**SlicerGPT** | Python, Transformers, Qt

- 3D Slicer extension that integrates a local AI chatbot.
- Provide context-aware help using your scene and official documentation.

March 2025 – Present

**Mesh and computational geometry** | C++

- 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.

October 2024 – December 2024

**Geometric Modeling** | C++, Qt

- Implemented 3D surfaces of revolution using Bézier and Hermite cubic spline curves.
- Developed geometric primitives, transformations, and operations to model complex shapes.

October 2024

**Medical Imaging Research** | Python, Tensorflow, Keras

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

January 2024 – June 2024

**LEGO Robots Retrieving Balls** | C++, EV3Dev, OpenCV, Git

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

February 2024 – June 2024