GABRIEL PAFFI

CONTACT

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EDUCATION

MASTER IN ROBOTICS WITH A MINOR IN MANAGEMENT
2023-2025
EPFL

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
2019-2022
EPFL

BACCALAURÉAT SI EUROPEAN SECTION (GERMAN)
2019
Don Bosco Landser

RELEVANT SKILLS

Programming: Python, C, C++
Machine Learning & Robotics: PyTorch, nnU-Net, ROS 2, Linux, OpenCV
CAD Software: Fusion 360, CATIA, SolidWorks
Analysis and Modeling: MATLAB, Abaqus

LANGUAGES

- French (Native)
- English (C1)
- German (B2)

PROFILE

Robotics engineer with hands-on experience in AI-based medical imaging and human-robot interaction. Skilled in developing end-to-end automation and perception systems, from algorithm design to deployment. Passionate about bridging technology and healthcare through data-driven innovation and collaborative engineering.

WORK EXPERIENCE

MASTER THESIS RESEARCHER : AI IN CARDIAC MRI IMAGING

CHUV Lausanne, February 2025 - August 2025

- Developed an **nnU-Net–based** segmentation pipeline for Free-Running 5D cardiac MRI to automate ventricular volume quantification.
- Integrated an **on-scanner server communication framework** enabling real-time image reconstruction, segmentation, and quantitative reporting on scanner.

SOFTWARE ENGINEER

Ecole Vivalys Ecublens, January 2024 - August 2025

- Programmed **Nao**, a humanoid robot, to assist educators in various activities and themes with children at nurseries.
- Initiated a robotics program for primary school children involving **robot construction and programming**.

ENGINEERING INTERN

SPARE PARTS 3D Paris, February 2023 - August 2023

- Implementation of **optimization and automatization** projects in the Digipart software.
- Development of an algorithm to identify internal, external, and accessible supports on 3D-printed parts, calculating saved mass and suitable material types.

PUBLICATIONS & AWARDS

- Second author, “Deep-Learning-Based Segmentation of Gridded Reconstructions from Undersampled Free-running 4D Data for On-Scanner Deployment”, **SCMR 2026** Abstract, Rio de Janeiro.
- Co-author, “Fast and robust dictionary generation for multiparametric cardiac mapping with variable timing using a transformer network, **ISMRM 2026** Abstract, Cape Town.
- **LauzHack** Winner: Developed a machine learning model for ECG analysis proposed by Bristol Myers Squibb (BMS), 2023, Lausanne.

MEDIA & PUBLIC RECOGNITION

- “Swiss nursery lets robot do the talking” — TechXplore / AFP (2024). Featured for programming the NAO robot in the **Educalis system**, Lausanne.
- “Prêts à donner vie à leur projet” — L’Alsace (August 2021), “Permettre au futur de prendre racine avec le projet The tree side of bike” — L’Alsace (June 2021). Highlighted for co-founding **The Tree Side of Bike** association, planting 3 000 trees after a 1 500 km cycling trip from Alsace to Berlin.