











Célian DI GIOVANNI








Profile

Final Year Engineering Student (M.Sc. Level) specializing in **Artificial Intelligence** applied to **Physiological Signals** and **Clinical Data**. Experienced in real-world **ECG data analysis**, **biometric classification**, **medical image segmentation**, **application validation** in hospital settings, and **clinical data structuring**.

Informations

-  Célian DI GIOVANNI
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Skills

- Python 
- AI & Data Science: Classification, Deep Learning (CNN), Feature Engineering, Embedded AI 
- Signal Processing: ECG, FFT, Bio-impedance 
- Computer Vision: segmentation, thresholding d'Otsu, Sobel, Mathematical Morphology 
- Biostatistics 
- Neurosciences 
- Java / C 

Education

- Digital and Electronic Engineering (M.Sc.) – e-Health Option** 2023 - Present
ISEN Méditerranée, Toulon
- Bionics Engineering – Erasmus Semester** Sep 2024 - Feb 2025
Università di Pisa
- CPGE PCSI / PC** 2021 - 2022
Lycée International de Valbonne
- Baccalauréat Mathématiques & Physique Chimie - Mention Bien** 2021
Institution du Mont Saint-Jean, Antibes

Projects

- Embedded AI for Epileptic Patient Monitoring** Present
STMicroelectronics Hackathon – Ongoing Project
 - Analyzed **ECG signals** from the PhysioNet database (CHB-MIT).
 - Calculated Heart Rate Variability (HRV) indicators: **RMSSD**, **SDNN**, **LF/HF**.
 - Trained AI models on **Edge Impulse** for conversion and compression for execution on **STM32** target.
 - Explored results show detection of ECG alterations consistent with documented epileptic seizure signatures.
 - Results non statistically validated yet.
- Skin Maven Bandage** 2025
Biometric Classification (M1 Project)
 - Created the database from skin bio-impedance measurements of 83 volunteers.
 - Performed **Data Augmentation using SMOTE** and randomization.
 - Trained and compared multiple models: **Logistic Regression**, **Random Forest**, **Gaussian**, **KNN**, **SVC**.
 - Achieved **90%**, **60%**, **20% accuracy**, for respectively sex, age, skin tone classification using Random Forest.

Languages

English (B2 Cambridge) ●●●●●

Spanish ●●●●●

Hobbies

■ Trips, History and Culture

■ Accoustic, Electronic Guitar

■ Rock Music, Cinema

■ Paddle, Judo, Badminton,
Running

■ Volunteering: Maraude Ordre de
Malte

Segmentation of Regions of Interest on Radiographic Images

2025

- Full implementation in **Python and Octave**.
- Methods used: **Otsu's thresholding**, RGB, grayscale, erosion, and dilation.
- Result: Functional segmentation validated on brain and thorax radiographs.

Employment

QA & Clinical Data Engineering Internship Pôle Pharmacie CHU de Nice

Jun 2025 - Sep 2025

- **System Validation (QA):** Performed **functional validation** of a mobile medical follow-up application (MUSE project).
- Defined use cases and **test scenarios**, and provided reports to development teams.
- Acted as the interface between medical teams and developers.
- **Data Structuring:** Extracted and structured clinical data from DOCX/XLSX reports.
- Automated data centralization using **Python (openpyxl, python-docx)** for subsequent analysis in Excel / Power Query.

Certificates

First Aid Certificate level 1