



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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Education

Digital and Electronic Engineering (M.Sc.) –
e-Health Option

2023 - Present

ISEN Méditerranée, Toulon

Bionics Engineering – Erasmus Semester
Università di Pisa

Sep 2024 - Feb 2025

CPGE PCSI / PC
Lycée International de Valbonne

2021 - 2022

Baccalauréat Mathématiques & Physique
Chimie - Mention Bien
Institution du Mont Saint-Jean, Antibes

2021

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.

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

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