Célian DI GIOVANNI

Informations

Célian DI GIOVANNI

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Toulon/Antibes

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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 ●●○○○

Profile

Final Year Engineering Student (M.Sc. Level) specializing in Artificial Intelligence and Signal Processing. Experienced in **physiological signal analysis**, **feature extraction**, training and evaluation of **Machine Learning models** (Random Forest, SVM) on real data. Applied projects include **biometric classification**, **ECG signal analysis**, and **deployment of embedded AI models**.

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.

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.

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

Employment

QA & Clinical Data Engineering Internship **Jun 2025 - Sep 2025**
Pôle Pharmacie CHU de Nice

- **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