CHRISTIAN FAUCI

Electronic Engineer

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About Me

I'm an **Electronic Engineer** who loves solving problems and building high-impact products, with a strong interest in **embedded systems** and **hardware–software integration**. Experienced in **signal processing**, low-level programming, and system modelling through academic projects and laboratory work. Motivated to contribute to real-world engineering challenges involving electronic design, firmware development, and reliable system performance.

Education

University of Palermo   **Expected Graduation: March 2026**

Bachelor of Electronic Engineering — Telecommunications

- Courses: Embedded System, Internet of Things, Computer Architecture, Automatic Control, Applied Telecommunications, Digital Signal Processing, Electronic Calculators, Modern Electronics, AutoCAD

- ERASMUS+ — **Univerzita Pardubice**, Czech Republic — Focus on Digital Signal Processing and Signals, Automatic Control, Matlab and Simulink

Technical Skills

Languages: C++, Python, HTML, CSS, JavaScript, Typescript

Libraries/Frameworks: ReactJS, PostgreSQL, NextJS, NodeJS

Projects

Motorized Door | Source Code   **C++ | Embedded | FSS**

- Designed and implemented a **real-time embedded control** application using a finite state machine **(FSM)** architecture to manage door motion phases with deterministic timing constraints.

- Developed event-driven input handling with sequence validation, timeout monitoring, and safety logic, including **asynchronous STOP** interrupt handling and forced transition to safe system state.

- Implemented software **PWM** generation and multi-timer scheduling to simulate motor control behavior, demonstrating concepts of real-time control, concurrency management, and embedded system timing design.

Fitness Tracker | Source Code   **Python | Pandas | Scikit-learn**

- Designed and implemented a Human Activity Recognition (**HAR**) pipeline from raw IMU accelerometer and gyroscope **signals**, enabling classification of complex motion patterns in real-world conditions.

- Applied **digital signal processing** techniques (**filtering, FFT, windowing**) and feature engineering to improve signal quality and classification performance.

- Developed and evaluated **machine-learning models** (**Random Forest, Neural Networks, KNN, Naive Bayes**), demonstrating integration of **embedded sensing, signal processing, and data-driven modelling** for wearable systems.

Find a Player | Source Code   **TypeScript | React | Tailwind CSS**

- Developed a modern **web application** that allows users to quickly create and join local sports matches for football, basketball, volleyball, padel, tennis, and more.

- Built the frontend using **React**, **TypeScript**, **Tailwind CSS**, implementing features such as match creation, filtering, dashboards, and in-app chat

- Enabled seamless coordination between players through automated participant management, push notifications (**Firebase Cloud Messaging**), and calendar integration, simplifying local sports organization

Spoken Languages

Italian (Native)	English (C1)	French (B1)	German (A2)