# Jounaid Ayoub

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#### ABOUT ME

Curious and enthusiastic software engineering student passionate about building end-to-end AI solutions. Experienced in full-stack and high-performance backend systems development, with a strong focus on distributed architectures, real-time data processing, and systems programming. Particularly interested in LLMs, API development, containerization, and scalable, maintainable software architectures for AI applications. Skilled in performance optimization, low-latency systems, and robust documentation practices.

#### **EDUCATION**

• FST Mohammadia

Ingénierie Logicielle et Intégration des Systèmes Informatiques (ILISI)

Mohammadia, Morocco 2024 - Present

• CPGE Mohammadia

MP (Mathematics and Physics)

Mohammadia, Morocco

2022 - 2024

### SKILLS

- Languages: Python, JavaScript/Typescript, C/C++, Java, PHP, SQL, Bash
- Technologies/frameworks: Docker, FastAPI, Linux, Git, React.js, Nest.js, Kafka, Redis

#### **PROJECTS**

## • End-of-Year Project and Internship

FSTM and Leyton CognitX Collaboration

High-Performance Real-Time Data Processing and Analysis System

2025

- Context: Developed a high-performance system for processing and analyzing high-throughput financial market data in real time with minimal latency, capable of handling large volumes of data streams using decoupled and distributed components.
- **Technical Overview**: Utilized Kafka for high-volume data stream handling, Redis + Celery for distributed real-time processing, **FastAPI** for building robust APIs, and Elasticsearch for high-performance data storage and indexing. Implemented report generation in multiple formats (PDF, CSV, JSON) and asynchronous delivery via email.
- Architecture: Built on decoupled, independently scalable components using **Docker** for containerization, ensuring high availability, low latency, and efficient processing under heavy load, crucial for real-time anomaly detection in financial systems.
- Learnings: Gained valuable experience in backend and systems development, distributed architecture, asynchronous task execution, performance optimization, latency reduction, and system design patterns focused on scalability, resilience, and maintainability.

#### • Recipe Sharing Platform

React.js, Nest.js, AI

2024

Full-Stack Web Application

- Description: Developed a web application allowing users to create, view, filter, and search for recipes.
- **Features**: Implemented recipe creation, detailed recipe viewing, filtering, and search functionality for easy recipe discovery.
- AI Feature: Integrated an AI conversational agent based on a language model (LLM) to assist users with recipe suggestions based on our Backend and answer Contexual questions.

#### • Football Manager

HTML, CSS, JS, PHP

2025

Web Application

• **Description**: Developed a web application to track and display football matches.

• **Features**: Integrated an administration system for managing tournaments, players, and teams. Enabled real-time result updates and competition organization.

## • AI ASSISTANT FOR THE GYM

PYTHON, OPENCV, MEDIAPIPE

TIPE PROJECT 2023

- **Description**: Developed a real-time training tracking application using computer vision.
- **Features**: Implemented a repetition recognition system based on movement and range of motion analysis. Designed an algorithm to evaluate exercise execution quality and optimize performance tracking.
- Learnings: Acquired fundamentals in artificial intelligence, particularly in image recognition and pose estimation.