

# OMAR BOUHLAL

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Tangier, Morocco

## Profile

Results oriented Software Engineer (**EMSI Class of 2025**) with a versatile technical background. Delivered a high-impact End of Studies Project (PFE) at Yazaki by engineering an SAP supervision solution (**.NET**, **PostgreSQL**, **Grafana**) that shifted monitoring from reactive to proactive. Experienced in AI-driven systems, including RAG chatbots using **Python** and **Next.js**, with solid DevOps foundations (**Docker**, **system integration**).

## Professional Experience

### YAZAKI

Mar 2025 – Jun 2025

Tangier, Morocco

- Built a modular and scalable **SAP** supervision platform using **.NET (RFC)** and **PostgreSQL**, performing **ETL** and data transformation by parsing SAP tables and logs for reliable data ingestion.
- Designed real-time dashboards with **Grafana**, enabling proactive incident detection; the solution is still in use today and continues to predict issues before they occur.
- Developed a **Python Windows Service** down-detector with **SMTP alerts**, preventing server outages and allowing the monitoring team to cut manual analysis time by half.
- Delivered a fully independent monitoring system, separate from SAP, allowing teams to access dashboards even when SAP is down; changing the workflow of the monitoring team from reactive to proactive.

### Tanger Med Port Authority

Jul 2024 – Aug 2024

Tangier, Morocco

- Developed an AI-powered RAG chatbot using **Python**, **Ollama** (local LLM), **Next.js** with **ShadCn**, and **ChromaDB** for vector-based document storage.
- Implemented OCR to parse documents such as invoices and contracts, enabling automated knowledge extraction.
- Built a secure **FastAPI** backend with JWT authentication, supporting document CRUD, embedding, and upload management, all running locally to prevent document leakage.
- Designed a frontend interface for seamless AI interaction and to manage all user-uploaded documents stored in **ChromaDB**.
- Automated access to internal documentation, significantly reducing employee lookup time and improving operational efficiency.

### GovRight

Jul 2023 – Aug 2023

Tangier, Morocco

- Created reusable UI components using **Vue.js**, improving scalability and responsiveness.
- Refactored legacy code to introduce reactivity and boost UX performance.
- Collaborated with backend teams for accurate API integration, coordinating via **Slack** and **ClickUp** for task management.
- Participated in daily **Scrum meetings**, contributing to sprint planning, task allocation, and team coordination.
- Learned and applied **Git/GitHub** workflows for collaborative version control within a team environment.

## Projects

### Personal Home Server (Homelab) (*Proxmox / Docker*)

- Designed and operated a personal homelab running on **Proxmox** for virtualization and service hosting.
- Linked the server to a custom domain using **DDNS** and configured secure routing with **Nginx Reverse Proxy Manager**.
- Gained hands-on experience in networking and cybersecurity, defending against malicious and bot traffic.
- Implemented full-stack monitoring using **Loki** and **Grafana** with real-time alerting.
- Deployed and managed containerized services using **Portainer**.

### ReplAi — AI Email Response Assistant (*Next.js*)

- Built an AI-powered assistant that generates contextual email replies from user prompts.

- Implemented authentication with **Clerk**, UI components with **shadcn/ui**, and LLM calls via **Google Gemini API**.
  - Deployed the application using **GitHub** and **Vercel**.
- Live Text-to-Speech Hand Gesture Translator**
- Built a real-time sign language translation system converting hand gestures into text and speech.
  - Used **TensorFlow**, **Scikit-learn**, **MediaPipe**, and **OpenCV** for gesture recognition and inference.
  - Integrated **pyspellchecker** to correct predicted text and improve sentence coherence.
  - Implemented text-to-speech output using **pyttsx3** for real-time audio feedback.
  - Experimented with small local LLMs, including **Gemma (3B parameters)** and lighter models, to enhance contextual text generation.

- Lunar Phases Calculator WebApp (Python / React.js)**
- Designed a full-stack web application using **Django** as a REST API and **React.js** for the frontend.
  - Computed and visualized lunar phases dynamically based on calendar inputs and current date-time.

- Car Rental Management Website (PHP)**
- Developed a full-stack rental management platform using **PHP**, **phpMyAdmin**, and **MySQL**.
  - Implemented a responsive UI with **TailwindCSS** for reservation and fleet management.

- AI Car Price Prediction Model (Python)**
- Built a local machine learning model with **Random Forest Regression** to predict car prices using online up to date market data with an **accuracy of 90%**.
  - Integrated the model into a user-friendly interface for real-time predictions.
  - Tested many machine learning algorithms like **XGBoost**, many types of **Regression**.

- Gym Inventory Management System (C++)**
- Built a backend system and CLI tool to manage gym inventory and user subscriptions.
  - Focused on data structures, file persistence, and efficient command-based operations.

- Ultrasonic Radar Project (Arduino)**
- Created an ultrasonic radar system using an Arduino board, servo motor, and distance sensors.
  - Designed a basic user interface to visualize object detection in real time.

## Education

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**EMSI — Ecole Marocaine des Sciences de L'ingénieur (Tangier, Morocco)**  
*Engineering Degree in Computer Science and Networks (2020 – 2025)*

## Technical Skills

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**Languages:** Python, JavaScript, C#, C++, SQL, PHP  
**Frameworks:** .NET / ASP.NET Core, React.js, Next.js, Django, Vue.js, Laravel, N8n  
**DevOps & Tools:** Docker, CI/CD, Grafana, Ollama, Git, Linux  
**Databases:** Pinecone, PostgreSQL, ChromaDB, MongoDB, Oracle, MySQL

## Certificates

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<b>React Native</b>	Meta, May 28, 2024
<b>React Basics</b>	Meta, Dec 28, 2023
<b>Machine Learning with Python</b>	IBM, Dec 27, 2024
<b>Introduction to Containers (Docker, Kubernetes &amp; OpenShift)</b>	IBM, Dec 27, 2024
<b>Introduction to Java and OOP</b>	University of Pennsylvania, Jan 22, 2024
<b>Introduction to Git and GitHub</b>	Google, Dec 27, 2024

## Languages

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**Arabic:** Native    **English:** Professional (C1)    **French:** Professional (B2)

## Soft Skills

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Problem Solving, Fast Learner, Adaptability to New Challenges, Strong Time Management and Punctuality, Technical Communication