

HADJ YUCEF Ayyoub

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PROFILE

Full Stack Developer with a Master's degree in Software Engineering, specialized in designing and developing scalable web applications using React, Next.js, Node.js, Express.js, and NestJS. Experienced in developing SaaS platforms, REST APIs, real-time systems, and solutions integrating artificial intelligence, computer vision, and IoT. Strong background in software design, application architecture, UML modeling, and relational databases. Passionate about building performant, maintainable, and user-centered solutions.

TECHNICAL SKILLS

Programming Languages : JavaScript, TypeScript, SQL, Java, PHP, C, Lisp

Front-end : React.js, Next.js, React Router, HTML, CSS, Tailwind CSS, Zustand, Redux Toolkit, shadcn/ui, next-intl

Back-end : Node.js, Express.js, NestJS, REST APIs, Socket.IO

Databases : PostgreSQL, MySQL, Sequelize ORM, database design

Architecture & Security : UML, analysis and design, object-oriented design, JWT, RBAC, SaaS architecture, i18n

Artificial Intelligence : Python, FastAPI, YOLOv11, RT-DETR, computer vision

Tools : Git, GitHub, Docker, Postman, Vite, Jest

Computer Science Fundamentals : Algorithms and data structures, dynamic programming, divide and conquer

Networking : IP addressing, VLSM, STP, OSPF, RIP

Operating Systems : File systems, process synchronization, semaphores

Cryptography : AES, RSA, classical and modern cryptography

PROFESSIONAL EXPERIENCE

Freelance Full Stack Developer specializing in the design and development of SaaS platforms, web applications, and AI-powered solutions.

Trip In – Real Estate Booking Platform

Web-based property booking application

Dec. 2025 – Present

Next.js, NestJS, PostgreSQL

- Developed a platform allowing property owners to list their properties and travelers to book them online.
- Designed a role-based access control system for administrators, property owners, and travelers, including hierarchical permissions and the ability for travelers to become property owners.
- Developed dedicated dashboards for administrators, property owners, and travelers, providing booking, revenue, and statistical tracking.
- Implemented user, property, favorites, conversations, complaints, and notification management.
- Developed a financial management system covering revenue tracking, withdrawal requests, and payment management.
- Integrated marketing tools for promotions, campaigns, and discount coupons.
- Developed the front-end using Next.js and Zustand and the back-end using NestJS and PostgreSQL, with JWT authentication and Arabic/English internationalization.

Smart Wash Vision – AI-Powered SaaS Supervision Platform

SaaS supervision platform for car wash stations

Sept. 2025 – Dec. 2025

PERN Stack, Python, YOLO

- Developed a SaaS platform using computer vision and YOLO to automatically detect and track vehicles from surveillance cameras.
- Implemented real-time calculation of waiting, washing, and drying durations to evaluate employee performance and optimize operations.
- Designed an interactive dashboard with daily and monthly reports, key performance indicators (KPIs), and alerts for delays or congestion.
- Developed a multi-branch SaaS system with subscription management, JWT authentication, internationalization (i18n), and dark mode.
- Integrated a Python YOLO service with a PERN Stack application through REST APIs for video stream processing and analysis.

MindHaven – Mental Health Monitoring Platform

2025

Web application for psychological monitoring and appointment booking

PERN Stack, TypeScript

- Developed a platform allowing users to monitor their emotional state, complete psychological questionnaires, and track changes in their mental health.
- Implemented an appointment booking system with psychologists, including consultation and patient record management.
- Developed a dashboard for healthcare professionals to monitor patients, review their history, and add clinical notes.
- Designed a secure authentication, user management, payment, and consultation system using Node.js, Express, and PostgreSQL.
- Developed a modern and responsive interface using React, TypeScript, and ShadCN, with analytical charts for tracking users' psychological progress.

Hasoubek Hardware Store

2024 – 2025

E-commerce platform for computer hardware and electronic products

PERN Stack

- Developed a complete e-commerce platform with product, category, brand, and supplier management.
- Implemented an advanced search engine, dynamic filters, and product sorting.
- Developed a shopping cart, favorites list, and secure checkout process.
- Designed an administration dashboard for managing products, orders, users, and inventory.
- Implemented inventory management, sales tracking, and low-stock alerts.
- Developed a role and permission management system with JWT authentication.
- Integrated statistics and dashboards displaying sales, revenue, best-selling products, and platform performance.

ACADEMIC PROJECTS

AI-Based Crop Disease Detection

Feb. 2026 – Jun. 2026

Master's final year project developed for INPV – Chlef Branch

PERN Stack, FastAPI, YOLOv11, RT-DETR

- Developed an intelligent platform for early crop disease detection combining artificial intelligence, IoT, and collaborative validation.
- Designed a multi-role system for administrators, farmers, specialists, and researchers with JWT authentication and authorization management.
- Implemented a validation workflow in which low-confidence predictions are automatically submitted to specialists, who annotate images using bounding boxes, classify diseases, and vote to establish the final diagnosis.
- Displayed detected cases on an interactive geolocation-based map to monitor the spread of agricultural diseases in real time.
- Automatically generated validated datasets that can be exported in multiple formats for AI model training and improvement.
- Deployed an IoT system based on Raspberry Pi 4 and LoRaWAN, enabling local disease detection in areas without Internet connectivity and transmitting results to the server.

- Integrated Socket.IO for real-time delivery of results and alerts to the web interface.

ChifaKids – Pediatric Medical Records Management

Bachelor's final year project

Dec. 2023 – Jun. 2024
PERN Stack

- Developed a medical records management solution designed for pediatric clinics.
- Implemented complete patient management (creation, modification, deletion, and search) as well as system user management.
- Implemented child growth monitoring (height, weight, and BMI) with charts compared against World Health Organization (WHO) standards.
- Implemented import and update of growth charts from Excel files.
- Managed appointments, prescription and medical report generation, with secure storage and encryption of patient data.
- Implemented payment tracking, outstanding balances, and payment history management.
- Developed a statistical dashboard displaying the most common diseases, most active doctors, and other performance indicators.

OTHER PROJECTS

wilayas-dz (Open Source) : Development and publication of a JavaScript package on npm providing official Algerian wilaya data.

PERT and Gantt Diagram Generator : Web platform automatically generating PERT/Gantt diagrams, with critical path calculation, dependency validation, and cycle detection.

Sayan.pro (Contributor) : Contribution to the development of an e-learning platform, including affiliate marketing, coupons, exams, and automatic certificate generation.

Mourassil (Contributor) : Participation in the development of a school communication platform, including user management, messaging, and notifications.

EDUCATION

Hassiba Benbouali University of Chlef
Master's Degree in Computer Science, Software Engineering

Chlef
Sept. 2024 – Jun. 2026

Hassiba Benbouali University of Chlef
Bachelor's Degree in Computer Science, Information Systems

Chlef
Dec. 2020 – Jun. 2024

LANGUAGES

Arabic : Native

English : Intermediate

French : Intermediate