



Mohamed Khalil Ajlani

Software Engineering Student | Full-Stack Developer | AI/ML & Cloud

Tel: +216 25 584 857 **Email:** mohamedkhalil.ajlani@esprit.tn **Location:** Tunis, Tunisia
LinkedIn: Ajlani Mohamed Khalil **Portfolio:** mohamedkhalilajlani.me

SUMMARY

Computer Science Engineering student at ESPRIT seeking a 4–6 month PFE internship starting February 2027. Full-stack developer experienced in secure, multi-tenant, real-time applications with React, TypeScript, NestJS, Spring Boot, FastAPI, MongoDB, Redis, and Docker, plus AI/ML solutions (YOLOv8, scikit-learn). Skilled in REST APIs, microservices, WebSockets, CI/CD, and Kubernetes, with a mechanical engineering background.

EDUCATION

Software Engineering Degree
ESPRIT Engineering School, Tunis 2024 – 2027 (Expected)

B.Sc. in Mechanical Engineering – Automotive Maintenance & Diagnostics
ISET Nabeul 2021 – 2024

PROFESSIONAL EXPERIENCE

Full-Stack Developer Intern
Genius PMO Consulting June 2026 – Present

- Developed a multi-tenant Quality Management System (ISO 9001: document control, non-conformities, CAPA, risk management, audits, KPIs) using React, TypeScript, NestJS, Fastify, MongoDB.
- Implemented RBAC, MFA, tenant-level data isolation, rotating refresh tokens, and traceable audit logs.
- Integrated Redis/BullMQ for background jobs and MinIO/ClamAV for secure, malware-scanned document storage; contributed to automated testing and Swagger/OpenAPI docs.

Software Developer Intern
TSE Consultant (Startup) July – August 2025

- Developed a Flutter mobile app for travel booking and itinerary management with reusable UI components, form validation, and responsive layouts.
- Collaborated with the startup team to translate business requirements into mobile user flows.

End-of-Studies Intern
Mercedes Tunis February – May 2024

- Designed and developed an electric brake prototype using Arduino, ISIS Electronics, and SolidWorks.

PROJECTS

TRAFIQ – AI-Powered Traffic Accident Detection System
Academic Project, Full-Stack & AI 2025 – 2026

- React frontend (live camera monitoring, incident management, maps) + Python/YOLOv8 vision pipeline for vehicle tracking and collision detection, linked to NestJS via authenticated Socket.IO; deployed with Docker, Kubernetes, GitHub Actions, Grafana, SonarQube.

WasteWise – Food Waste Prediction Platform
Academic Project, Full-Stack & ML 2026

- Full-stack app to reduce food waste: React/TypeScript frontend, NestJS + MongoDB backend, Python/scikit-learn ML service for predictions and analytics.

Nexora – AI-Powered Coding Education Platform
Personal Project, Full-Stack SaaS / EdTech 2026

- Full-stack AI platform for bootcamps: FastAPI microservice for rubric-based code analysis (Python, JS, TS, Java, C, C++), Skill Mastery Map, plagiarism detection (tokenization, shingling, Jaccard similarity), multi-role workflows (students, instructors, admins).

Smart University – Microservices-Based University Management Platform
Academic Project 2025

- Scalable microservice architecture with Spring Boot, Spring Cloud Gateway, Keycloak (OAuth2/OIDC), RabbitMQ, Eureka, OpenFeign.

Smart Agricultural Irrigation System
Academic Project 2024

- Automated irrigation system using a PIC16F microcontroller, ISIS Electronics, and MikroC.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Java, Python, C
Frontend: React, Tailwind CSS, Vite, React Query, Redux Toolkit
Backend: NestJS, Spring Boot, FastAPI, Node.js, REST APIs, WebSockets
Databases: MySQL, PostgreSQL, MongoDB, Redis
AI/ML: YOLOv8, OpenCV, PyTorch, scikit-learn, pandas, NumPy
Cloud & DevOps: Docker, Kubernetes, GitHub Actions, Jenkins, Nginx, Prometheus, Grafana
Security: JWT, OAuth 2.0, OpenID Connect, Keycloak, RBAC, MFA
Testing & Tools: Jest, Vitest, Pytest, Supertest, Testing Library, Git, Linux, Swagger/OpenAPI, SonarQube

LANGUAGES & ACTIVITIES

Languages: Arabic (Native), French (B2), English (B2) | **Activities:** VP HR – Tunivision Club (2021–2022)