

KHALIL KRIFI

+216 28 042 451 | Boumhal, Ben Arous, Tunisia
khalil.krifi@ensi-uma.tn | LinkedIn | GitHub | Portfolio

SUMMARY

Computer science engineering student seeking a **4–8-month graduation internship starting Feb 2026**; experienced with Python, Spring Boot, Angular, Docker/Kubernetes, and applied ML.

EDUCATION

Computer Science Engineering , ENSI, University of Manouba	Sep 2023 – Jun 2026
Engineering Preparatory Studies , IPEIN, Nabeul	Sep 2021 – Jun 2023

EXPERIENCE

Software Engineer Intern — Fleet Management System (repo) <i>Omnilink</i> , Tunis, Tunisia (remote)	Jul 2025 – Sep 2025
---------------------------------------------------------------------------------------------------------------	---------------------

- Designed and built a **fleet-management platform with 10 Spring Boot microservices**, containerized with Docker, and orchestrated via `docker-compose`, enabling modular deployment and independent scaling.
- Delivered **40+ GraphQL APIs** (Apollo and Netflix DGS) exposing vehicle, tracking, driver, and trip data to the frontend.
- Enabled **real-time updates over WebSockets** for vehicle status, live location streams, and alerting.
- Integrated **OAuth 2.0 / OpenID Connect** with Keycloak for authentication and role-based access control.
- Added **Elasticsearch-backed full-text search** to filter vehicles, trips, logs, and historical data.

AI Research / Engineering Intern — Falsified Signature Detection (repo) <i>Laval University</i> , Quebec City, Canada (remote)	Feb 2025 – May 2025
------------------------------------------------------------------------------------------------------------------------------------------	---------------------

- Led the design and training of **8+ binary classifiers** using **pretrained backbones via transfer learning**.
- Optimized model performance through 50+ Optuna hyperparameter trials, achieving **94% accuracy** and **93% F1** on test.
- Augmented data with Albumentations (rotations, scaling, noise, contrast) to **improve generalization**.
- Applied **XAI techniques** (SHAP, LIME, Grad-CAM) to generate visual explanations for stakeholders.
- Composed an **8-service microservice architecture**—AI inference (Python/PyTorch), backend APIs (Spring Boot + Spring Cloud), and frontend (Angular)—and **containerized** all components with Docker for reproducible deployment.

Software Engineer Intern — Enterprise Content Management (repo) <i>BFI Group</i> , Tunis, Tunisia (on-site)	Jun 2024 – Aug 2024
-----------------------------------------------------------------------------------------------------------------------	---------------------

- Architected and developed an ECM web application (Spring Boot + Angular) with PostgreSQL as the data store.
- Built document management upload/download functionality for files up to **500 MB**, directory hierarchy and versioning.
- Integrated **Elasticsearch** for search and indexing across **20 000+ documents**, achieving sub-**300 ms** avg retrieval.
- Enforced **JWT-based authentication** and role-based access control with fine-grained document permissions.

PROJECTS

- Discord — Profanity Banner (repo)** — Moderation/profanity-detection tool for the Tunisian community.
 - Developed a **Discord bot** to scan chat messages in real time, handling up to **2 000+ messages per minute**.
 - Set up over **300 keyword and regex-based filters**, warning messages, and automated moderation actions.
 - Optimized throughput to **minimize latency** under heavy chat activity.
- Directory Content Collector (repo)** — Utility for aggregating and formatting source files/textual content.
 - Wrote a Python script to traverse directories, ignore over **30** unwanted file types and folders, and collect readable files.
 - Processed **1 000+ files** in under **10 seconds** on a medium-sized codebase, producing clean, structured text snapshots.
 - Useful for sharing compact snapshots of codebases or feeding code to downstream tools.
- Universal ML Analytics Platform (repo)** — Web-based ML platform for automated analysis of any dataset.
 - Engineered **automated data preprocessing pipeline** that handles mixed data types, missing values, and feature engineering, with smart target filtering and stratification detection across **classification and regression** problems.
 - Integrated **SHAP and LIME** for model interpretability with comprehensive experiment tracking
- Rouli — Vehicle Rental App (repo)** — Full-stack app (HTML/CSS/JS/PHP).
 - Designed a responsive web interface for browsing, filtering, and reserving vehicles.
 - Built backend logic in PHP for authentication, booking management, and availability control.
 - Added email confirmations and timed reservation-expiry logic.

TECHNICAL SKILLS

Programming Languages: Java, TypeScript/JavaScript, Python, C/C++, SQL, GraphQL

Technologies: Git, Docker, Kubernetes, GitHub Actions, Spring Boot, FastAPI, Angular, React, Linux, PostgreSQL, n8n

Languages: Arabic (Native), French (Fluent), English (Fluent)