Mohammed **EZ-ZOUAK**

SOFTWARE ENGINEER

Casablanca, Morocco

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Summary

Backend Software Engineer focused on Python systems, automation, and data processing. Experience building production backend services with Django and designing industrial automation tools, including computer-vision-based defect detection and operational dashboards for manufacturing environments. Comfortable working end-to-end across data pipelines, APIs, and deployment for real-world industrial use cases.

Experience

ITSS Paris · *Casablanca, Morocco*

SOFTWARE ENGINEER · *Aug. 2025 – Present (Permanent)*

- Backend ownership on a **Django**-based system: business logic implementation, WebSocket features, schema migrations, and functional evolutions for production services.
- Improved system performance and reliability by profiling slow SQL queries and optimizing database access patterns in PostgreSQL/MySQL.
- Implemented real-time features (notifications and live data updates) using WebSockets and asynchronous workers to enhance user experience.
- Integrated external services and APIs (authentication, payments, internal tools) with robust error handling and logging.
- Application maintenance and **TMA**: incident resolution, corrective fixes, and minor enhancements on existing production systems.
- Preparation of **effort estimates** for feature requests and participation in delivery planning.
- Execution of **functional testing**, validation with business stakeholders, and production deployment of fixes.
- Interventions for **large enterprise clients** in a multi-client ESN context, including IJ France, SIMV, CIDJ, PSE, Mairie de Champigny, and IJBOX.

Lear Corporation · *Kénitra, Morocco*

SOFTWARE ENGINEER (INTERN) · *Feb. 2025 – Jul. 2025*

- Designed a computer-vision defect detection prototype using YOLO and OpenCV to identify manufacturing defects in a **Just-In-Time** production environment.
- Built data pipelines to collect, clean, and process shop-floor logs, enabling automated analysis of production quality and cycle times.
- Developed operational dashboards for production teams, exposing real-time and historical KPIs (defect rate, throughput, downtime) to support decision-making.
- Evaluated model performance using precision/recall metrics and confusion matrices, iterating on dataset quality and annotation to improve detection accuracy.
- Collaborated with industrial engineers and plant teams to integrate the prototype into existing workflows and constraints on the production line.
- Designed and developed an internal web platform end-to-end to digitize recruitment, training, and certification processes, replacing Excel-based and paper workflows.

Twins Groupe · *Fès, Morocco*

FREELANCE SOFTWARE DEVELOPER · *Jan. 2025 – Feb. 2025*

- Developed backend features and frontend templates using **PHP/Symfony** for institutional and public-sector web platforms.
- Delivered a production-ready solution aligned with functional and technical client requirements.

Education

ENSA Tétouan · *Tétouan, Morocco*

STATE ENGINEERING DEGREE IN COMPUTER SCIENCE — INFORMATION SYSTEMS & DECISION SUPPORT · *2020 – 2025*

Technical Skills

Backend & APIs	Python (Django), Java (Spring Boot), PHP (Symfony), REST APIs, WebSockets
Databases	PostgreSQL, MySQL, SQL optimization, indexing, schema migrations, query performance tuning
Web	React, JavaScript, HTML, CSS
Data & AI	Python data processing, ETL/ELT pipelines, computer vision (YOLO, OpenCV), operational analytics and dashboards for industrial environments
DevOps & Tools	Git, Docker, Linux, CI/CD, Redis, Nginx

Languages

Arabic — Native | **French** — Fluent (C1) | **English** — Fluent (C1)