

Mohamed Aziz Ouertatani

Computer Science Engineering Student | Data Science & Full-Stack Development

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Profile

Fourth-year **Computer Science Engineering** student at ESPRIT specializing in **Data Science**. Experienced in architecting production-oriented platforms that bridge the gap between complex backend APIs and predictive analytics. Proven track record in building **reproducible systems** using Docker and MLflow, with a strong focus on observability and decision-support logic. Dedicated to shipping scalable, well-documented code that transforms raw data into actionable business intelligence.

Technical Skills

Languages: Python, TypeScript, SQL, Java, R

Backend & APIs: Fastify, Node.js, REST APIs, JWT Authentication, RBAC

Data & ML: Pandas, NumPy, scikit-learn, statsmodels (ETS, ARIMA/SARIMA), MLflow

Databases: PostgreSQL, MongoDB, Data Warehousing, Schema Design, Migrations

DevOps & MLOps: Docker, docker-compose, CI-ready pipelines, Experiment Tracking

BI & Visualization: Metabase, Power BI, Google Data Studio

Frontend: React, Next.js, Tailwind CSS

Projects

Smart Inventory Forecasting & Replenishment System

Backend / Data / MLOps Engineer

- Designed and implemented an end-to-end smart inventory platform covering ingestion, forecasting, APIs, and analytics.
- Built per SKU-location weekly demand forecasting using Seasonal Naive, ETS, and ARIMA/SARIMA models.
- Implemented rolling-origin backtesting with automated model selection using WAPE, sMAPE, and bias.
- Integrated MLflow for experiment tracking, metrics, artifacts, and model versioning.
- Engineered a PostgreSQL warehouse with raw, curated, and ops schemas, migrations, constraints, and indexes.
- Developed a Fastify + TypeScript API with JWT authentication, RBAC, pagination, and secure queries.
- Implemented replenishment logic using lead time, service level, and forecast uncertainty.
- Built Metabase dashboards for demand trends, forecast accuracy, and replenishment recommendations.
- Fully containerized the platform using Docker and docker-compose.

Tech: Python, Fastify, TypeScript, PostgreSQL, MLflow, Docker, Metabase

GitHub: github.com/mohamedaziz-ouertatani/smart_inventory

MLOps Pipeline – MLflow & Docker

MLOps Engineer

- Built an end-to-end ML pipeline with reproducible training and evaluation.

- Tracked experiments, parameters, and metrics using MLflow.
- Containerized training and inference services with Docker.

Tech: Python, scikit-learn, MLflow, Docker

Full-Stack Web Application (Fastify + Next.js)

Full Stack Developer

- Developed a type-safe full-stack application with Fastify backend and Next.js frontend.
- Implemented PostgreSQL persistence and authentication flows.
- Designed responsive UI using Tailwind CSS.

Tech: Fastify, TypeScript, PostgreSQL, Next.js, Tailwind CSS

Experience

Next.js Developer — iTransform365

2024

- Developed scalable web interfaces using Next.js and Tailwind CSS.
- Delivered production-ready features in collaboration with backend teams.

React.js Developer — Swiver

2022 – 2023

- Built responsive UI components with React.js.
- Implemented multilingual support and improved UX performance.

Education

Engineering Degree in Computer Science (Data Science)

ESPRIT

2021 – Present

Focus areas: Data Science, Databases, Machine Learning, Software Engineering, Systems Design

Certifications

- **CCNA: Switching, Routing, and Wireless Essentials** – Cisco
- **MongoDB Certified Node.js Developer** – MongoDB
- **Neo4j Fundamentals** – Neo4j Graph Academy