Safwen Cherif

Software Engineering Student — Co-Founder @ 3aweni.tn

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Professional Summary

Software Engineering student specializing in AI, Data Engineering, and scalable software systems, with hands-on experience building full-stack applications and end-to-end MLOps pipelines. Passionate about MLOps, DataOps, and the application of AI in healthcare. Co-founder of **3aweni.tn**, a startup incubated at GFI, where I lead product architecture and software development from concept to deployment.

Education

Ecole Polytechnique Sousse *2024 – Present*

Software Engineering and Information Systems – Engineering Degree (Diplôme d'Ingénieur)

Higher Institute of Information and Communication Technologies *2021 – 2024*

Bachelor's Degree in Software Engineering and Information Systems

Entrepreneurial Experience

3aweni.tn (Startup, Incubated by GFI) *2025 – Present*

Co-Founder & Software Engineer

- Leading design and development of a multi-platform digital services product from concept to nearing production release on Android, now expanding to iOS and Web.
- Collaborating with the GFI Incubator on legal structuring and go-to-market preparation, including the Tunisian Startup Act application.
- Stack: **Flutter, Next.js, NestJS, Python, Firebase, Supabase, LLM APIs**.

Professional Experience – Internships

Elite Council Consulting *Jun – Jul 2025*

Software Development Intern (Remote) – React.js, Flask, MongoDB

- Built a smart school attendance system with AI integration, RESTful APIs, and real-time monitoring dashboards.
- Implemented authentication, role-based access control, and data visualization features.

Nachd-IT *Feb 2024 – May 2024*

Final Year Project Intern (Sousse) – Laravel, PHP, MySQL, JavaScript, jQuery, Tailwind CSS

- Designed and developed **Hannibal Market**, a full-stack multi-vendor e-commerce platform with separate dashboards for customers, vendors, and administrators.
- Implemented core marketplace features including product catalog with variants, shopping cart, checkout, order management, vendor onboarding, and withdrawal workflows.
- Integrated multiple payment gateways (**PayPal**, **Stripe**, **Razorpay**, COD) and real-time messaging using **Pusher** and **Laravel Echo**.
- Built an admin panel with **Yajra DataTables**, role-based access, and configurable site settings; delivered a production-ready solution following agile practices.

Food Delivery – Microservices Architecture *2023*

Software Engineering Intern – Node.js, Express.js, gRPC, GraphQL, Apache Kafka

- Designed and implemented a distributed food-delivery platform using a **microservices architecture** with separate Catalogue, Order, and Delivery services behind a unified API Gateway.
- Implemented **gRPC** for service-to-service communication, **REST** for core API endpoints, and **GraphQL** for cross-service queries through the gateway.
- Built an event-driven synchronization layer using **Apache Kafka**, with events such as `order.created`, `order.status.updated`, and `delivery.updated`.
- Implemented persistence using **RxDB** for catalogue data and **SQLite** for order and delivery services; documented and tested APIs using Postman.

Key Projects

Medical RAG Chatbot – LLMOps Delivery Pipeline

- Built a medical RAG chatbot grounded in an encyclopedia PDF (FAISS + Sentence-Transformers), with typo-tolerant retrieval and Groq/OpenRouter generation via Flask.
- Packaged with Docker (CPU Torch), Jenkins CI/CD, Trivy scanning, and Amazon ECR publishing.
- Stack: **Python, Flask, LangChain, FAISS, Groq, Docker, Jenkins, Trivy, AWS ECR**.

MLOps Pipeline for Real Estate Data (Mubawab.tn)

- Built an automated ML pipeline with web scraping, geographic enrichment, modeling, and Airflow-orchestrated retraining; model promotion via MLflow and artifact backup with DVC.
- Stack: **Python, Airflow, DVC, MLflow, Docker, scikit-learn, BeautifulSoup, Geopy**.

YouTube Channel Analytics ELT Pipeline

- Built an Airflow-orchestrated ELT pipeline (YouTube Data API → dated JSON → PostgreSQL staging/core) with Soda quality checks and GitHub Actions CI/CD.
- Stack: **Python, Airflow, PostgreSQL, Soda Core, pytest, Docker Compose, GitHub Actions**.

Anime Recommender – End-to-End MLOps

- Deployed a hybrid TensorFlow embedding recommender (collaborative + content-based) with DVC/GCS, Comet ML tracking, Jenkins CI/CD, GCR, and GKE serving.
- Stack: **Python, TensorFlow, Flask, DVC, Comet ML, Docker, Jenkins, GKE, GCP**.

Additional Projects

- **Titanic Survival MLOps**: GCS → Airflow ETL → Postgres → Redis feature store → RF training; Flask + Alibi Detect + Prometheus/Grafana.
- **Hotel Cancellation MLOps**: LightGBM + MLflow; Jenkins CI/CD to Cloud Run. **NeuroScanAI**: ResNet50 + ResUNet brain-tumor pipeline with FastAPI.
- **Data Warehouse**: dual ETL (Python/SQLAlchemy + Power BI). **Hospital Management**: Django EHR web app.

Technical Skills

Languages: Python, Java, JavaScript, PHP, C, Dart
Frameworks: React.js, Next.js, Nest.js, Node.js, Express, Laravel, Symfony, Flask, Django, Flutter, FastAPI, LangChain
Data & AI: Pandas, NumPy, Scikit-learn, TensorFlow, Keras, LightGBM, Sentence-Transformers, RAG, Alibi Detect, MLflow, DVC, Comet ML, Airflow, Data Warehousing, Power BI
Databases: MySQL, MongoDB, SQLite, SQL Server, PostgreSQL, Redis, RxDB, FAISS
Backend & Messaging: REST, GraphQL, gRPC, Apache Kafka
Tools: Git, Docker, Docker Compose, Jenkins, Kubernetes, Trivy, Prometheus, Grafana, pytest, Postman, Firebase, Android Studio, UML
Cloud: AWS (ECR), Azure, Google Cloud Platform (GCS, GCR, GKE, Cloud Run)
Practices: Agile, Scrum, MLOps, LLMOps, DataOps, CI/CD

Certifications & Professional Development

- **IBM Big Data Engineer Certificate**
- **Python Specialist Certification (Certiport)**
- **Supervised & Unsupervised Machine Learning** – DataCamp
- **MLOps — Machine Learning Operations Specialization** – Duke University (Coursera) — In Progress
- **Data Engineering Specialization Professional Certificate** – DeepLearning.AI (Coursera) — In Progress

Languages

Arabic (Native) — English (Fluent) — French (Fluent)

Activities & Volunteering

- **Red Crescent, Chebba** (2022–Present) – Treasurer, "Koffet Romdhan" initiative
- **ACM EPS, Sousse** (2024–Present) – Member
- **Polytech Sousse PSC** (2024) – Public health initiative for primary schools with the Regional Health Delegation of Sousse