

Ayoub Hammoudi

Software Engineer, Full-Stack & AI Platforms

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 LinkedIn |  GitHub |  Portfolio

Summary

Full-stack engineer with backend and AI depth, shipping systems end to end: solo founder of **Phanter**, an LLM outbound platform gated by evaluations and red-teaming in CI, and open-source contributor with **7 pull requests merged upstream** into Apache (Kafka, Beam), Microsoft (Agent Framework, PyRIT), SQLGlot and Prefect.

Open Source

External Open-Source Contributor | 7 pull requests merged upstream, 1 under review [2026]

- **Microsoft:** *Agent Framework* (#9139) & *PyRIT* (AI red-teaming, #3075, #3014): fixed Gemini streaming so a chunk without `model_version` no longer blanks `ChatResponse.model`, restoring per-model `OpenTelemetry` metrics; made `DecodingScorer` cache-safe by folding matcher config into its identity (two scorers with opposite verdicts shared a hash); joined `score_category` lists in the score printer.
- **Apache:** *Kafka* (#23786) & *Beam* (#40430): removed three duplicate `testImplementation` declarations in `build.gradle`, proving the no-op by diffing resolved dependency graphs byte-for-byte; removed a stray `###` debug log left in the Python `BigQuery` source since 2021.
- **SQLGlot** (#8519): fixed the DuckDB generator dropping the UNIFORM seed set by the Databricks parser (seed 5, 99 and no seed all transpiled to identical SQL) by reusing the Snowflake fallback.
- **Prefect** (#23281): restored the Mattermost botname silently dropped by a block rewrite, so alerts are signed by the configured bot its Discord sibling already honours; traced the regression to the PR that introduced it.
- **Keras** (#23880, issue assigned, *under review*): made `AugMix` reproducible by seeding the augmentation choice through the backend RNG instead of Python's global random; identical output verified on TensorFlow, JAX and PyTorch.

Professional Experience

Full-Stack Developer (Internship, then Apprenticeship) | Cash Flow Positif – Paris, France [08/2025 – 08/2026]

- Built scraping robots and AI agents collecting data from **51 real-estate sources**, orchestrated through **Kafka** event streams.
- Built the **Scheduler Command** on **Fastify/TypeScript** microservices (Prisma, **MySQL**), balancing tasks by per-source quotas.
- Containerized the services with **Docker**, with **Grafana** and **Loki** observability.

Freelance Full-Stack Engineer | Remote [06/2024 – Present]

Clients: E-KIGAI (2026, confidential) · FCT (2026) · FirstDown Tech, Spar-X site (2025–26) · SweetcHome, Dubai (2024)

- Refactored the Spar-X and FCT websites for SEO and AEO on **Next.js 15**, **React 19** and TypeScript, with a shared design system and **JSON-LD**.
- Gated every build on **Lighthouse CI** over **9 pages** (SEO 100, other categories at least 95), scoring above **97**, plus **Playwright** specs.
- SweetcHome: built a property-client **matching algorithm** and price predictions over **500+** scraped listings per month.
- SweetcHome: built a **CNN image classifier** (property vs. non-property photos) served through a **Flask** REST API.

Software Engineer Intern | Elyadata – Tunis, Tunisia [06/2023 – 09/2023] & [06/2022 – 07/2022]

- 2023: Delivered a CV generator for **55+ users** (Angular, **Spring Boot**, **LaTeX**, Kafka, Docker).
- 2022: Implemented a **Keycloak** authentication service on Spring Cloud behind an API gateway, serving **50+ users**.

Projects

AFTERSHOCK – Real-Time Seismic Lakehouse (solo) [07/2026 – 08/2026]

- Streamed USGS events through an idempotent **Kafka (KRaft)** producer into **Spark Structured Streaming**, writing **Delta Lake** tables on HDFS (bronze/silver/gold).
- Chained **4 Airflow DAGs** through Datasets and proved that replay after a hard kill writes no duplicates.
- Tracked full version history for **2,128** of **17,526** earthquakes in the 2025 catalog: **735 (34.5%)** were revised after publication.

Taintrace – Sanctions Screening over a Bitcoin Contamination Graph (solo) [06/2026 – 07/2026]

- Ingested OFAC and OpenSanctions (**28.8 MB + 350.4 MB**) with Airflow as streams without disk writes into **MongoDB** bronze/silver, screening Bitcoin over Kafka.
- Propagated taint over n hops in **Neo4j**: traced **512.25 BTC** received by an address on no sanctions list, **11.07%** tainted at 3 hops.

AI for Molecular Design – ML for EGFR Drug Discovery (solo) [07/2026]

- Built 8 ML pipelines on public **ChEMBL** data (RDKit descriptors, classification, pIC₅₀ regression, clustering, activity cliffs), each against a baseline, plus a **Rust** cheminformatics engine compiled to **WebAssembly** for the companion Next.js app.

Phanter – LLM Outbound Platform (solo founder, pre-launch) [01/2025 – Present]

- Orchestrated a multi-step pipeline on **Inngest** durable functions (Next.js, **PostgreSQL**), deduplicated by event key in **Redis**, with **Stripe** usage-based billing.
- Gated CI on an **LLM evaluation** harness (F1, MAE, Spearman) with **NVIDIA garak** red-teaming and prompt-injection detection.

CI/CD Pipeline & Configuration Management | Spring Boot applications [10/2024 – 12/2024]

- Built an end-to-end **CI/CD** chain (build, tests, static analysis, release) on **Jenkins**, with a **SonarQube quality gate** gating every delivery.
- Managed binaries, versions and **baselines** through a **Nexus** artifact repository and **Docker** containerized deployment, tracing each release from commit to delivered product.

Education

IPSSI, Paris, France | MSc Software Engineering, AI & Big Data
ESPRIT, Tunisia | Engineering degree (M.Eng.), Software Engineering

[02/2026 – 01/2027, expected]
[09/2019 – 06/2025]

Technical Skills

Languages: Python, TypeScript, Java, SQL, Rust (WebAssembly)

Backend & Web: Event-driven microservices, Fastify, NestJS, Spring Boot, Spring Cloud, Flask, Next.js, React, Keycloak

Data: Kafka, Spark Structured Streaming, Airflow, Delta Lake, Apache Beam, PostgreSQL, MySQL, MongoDB, Neo4j, Redis

AI & DevOps: LLM evaluation, red-teaming (garak), prompt-injection defense, Keras CNN, Docker, Playwright, Lighthouse CI

Awards & Certifications

1st Prize, Open Startup Tunisia (OST 2024) · National startup competition
3rd Place, Orange Summer Challenge · Hackathon, AI Engineer on EpiSafe (epileptic-seizure detection)
Certifications: CCNA (Cisco) · Honoris SDGs, Ethics & Gender Equality

[2024]
[2023]