

# AMINE EL FARSSI

Senior AI Engineer (GenAI / Agentic Systems) • Data Scientist • Cloud Architect

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## SUMMARY

Senior AI Engineer with 5 years of AI/ML/DS experience, building and hardening production AI agents at one of Belgium's largest banks. Focus on agentic systems, AWS architecture, and operational excellence (evaluation, observability, and security).

## EXPERIENCE

### AI Engineer (GenAI / Agentic Systems)

KBC Bank & Insurance, Leuven, Belgium

2023 – Present

- Built and shipped production AI agents for core operations, including an insurance claims-handling agent that automated information gathering and follow-ups; improved handler throughput by ~2–3× across ~300 claims/month.
- Designed an event-driven agent runtime with state synchronized to enterprise backends using EventBridge (decoupled integration) and DynamoDB (state management).
- Delivered an autonomous mortgage/credit review agent that retrieves and applies credit policies/SOPs, integrates with CRM, supports human-in-the-loop, and handles ~150 questions/month.
- Built a reusable RAG platform on AWS enabling business units to ingest policies/FAQs, generate vector snapshots, and serve consistent retrieval for downstream agents.
- Implemented AgentOps + observability: golden datasets as CI/CD deployment gates, post-deploy evaluation, OTEL tracing/logging, and circuit breakers for integration failures.
- Led security hardening: prompt-injection guardrails, policy enforcement in system prompts, and red-teaming to identify vulnerabilities pre-release.

### Data Scientist (AML / Graph ML)

KBC Bank & Insurance, Leuven, Belgium

2021 – 2023

- Built AML transaction-monitoring models using ensemble (GBM/Random Forest/XGBoost) combined with graph-based scoring (diffusion over transaction/customer networks) to increase hit-rate vs rule-based detection.
- Engineered network features (PageRank, Jaccard similarity, neighborhood overlap) and applied community detection (Leiden) to surface suspicious clusters beyond single-transaction signals.
- Operated the system with governance-aligned thresholding (~2% flagged) on high-volume flows (10<sup>6</sup> transactions/day). Daily batch scoring via PySpark + Airflow, tracked in MLflow.

### Big Data Engineer

JEMS Group, France

Mar 2021 – Aug 2021

- Migrated and standardized data pipelines on Databricks using medallion architecture (bronze/silver/gold), delivering a clean curated layer for analytics warehousing.

### Data Scientist

Bioceanor, Valbonne, France

Jul 2020 – Mar 2021

- Built time-series forecasting models (LSTM) for sea-water quality signals (turbidity/chlorophyll/temperature), deployed via API and integrated with LoRa-based sensor pipelines.

## EDUCATION

MSc Applied Data Science — Data ScienceTech Institute (DSTI), France, 2020–2021

Diplôme d'Ingénieur, Civil Engineering — Strasbourg, France (MSc equivalent)

## CERTIFICATIONS

AWS Certified Solutions Architect – Associate (2022)

## SKILLS

**Agentic/GenAI:** AI Agents, RAG Systems, LangChain, LangGraph, Bedrock, Guardrails, Eval Harnesses (Golden Datasets)

**AWS:** Bedrock, AgentCore, Lambda, API Gateway, EventBridge, SQS, DynamoDB, ECS/ECR, IAM, S3

**Data & MLOps:** PySpark/Spark, Airflow, MLflow, Docker, OpenTelemetry (OTEL), CI/CD

**Programming:** Python, SQL, TypeScript, Bash, Terraform (HCL)

## LANGUAGES

French (Native) • English (Fluent) • Arabic (Fluent) • Dutch (B1)