

Abdelrahman Ayman

Senior Software Engineer | Data Platforms, Distributed Systems & AI Products

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SUMMARY

Senior Software Engineer with 5+ years of experience building scalable backend, full-stack, data, and distributed systems across data platforms, healthcare technology, consulting, and AI-assisted products. Experienced with Python, Java, Scala, PHP, TypeScript, FastAPI, Laravel, Vue/Nuxt, PostgreSQL, Spark, Kafka, Airflow, Hive, OpenMetadata, and cloud-based product infrastructure. Strong background in designing systems that process, validate, analyze, and operationalize large amounts of structured data. Interested in applying scalable engineering, data processing, and AI/product experience to threat-intelligence and security-focused systems at Google Cloud.

CORE SKILLS

Languages	Python, Java, Scala, PHP, JavaScript, TypeScript, SQL
Backend	FastAPI, Laravel, REST APIs, distributed systems, event-driven architecture, workflow automation
Frontend	Vue.js, Nuxt, Vuex, Tailwind CSS, React Native
Data & Platforms	Apache Spark, Kafka, Trino, Airflow, Hive, Hive Metastore, OpenMetadata, Polars, PostgreSQL, Redis
Cloud & AI	Google Cloud, Vertex AI/Gemini, Cloud Run experiments, Render, Netlify, structured LLM outputs
Engineering	System design, data validation, metadata management, performance optimization, testing, observability, technical leadership

PROFESSIONAL EXPERIENCE

KPMG Netherlands - Senior Software Engineer, Data Squad, DANI Department | Netherlands Jan 2025 - Present

- Built data quality and validation logic for financial data workflows using Python, Polars, and SQL.
- Designed modular validation classes and registry-style patterns to support extensible validation and metric computation.
- Modeled destination-level quality metrics using flexible schemas supporting boolean, numeric, text, and JSON metric values.
- Implemented financial validation logic including fiscal-year balance and movement checks.
- Helped evolve validation workflows from binary pass/fail checks into structured quality metrics suitable for reporting, debugging, and long-term observability.
- Worked with stakeholders to clarify requirements and translate ambiguous data-quality needs into maintainable technical designs.

Careem by Uber - Senior Software Engineer I | Remote / Egypt Apr 2024 - Nov 2024

- Designed and implemented metadata management across two critical data warehouse projects: one for pipeline configuration and one for data transfer execution.
- Built metadata publishing flows that stored pipeline metadata in databases and sent it to Hive Metastore after pipeline completion.
- Configured OpenMetadata ingestion to improve data discovery, governance, and lineage visibility.
- Introduced SLAs to data pipelines and added data-quality triggers for Hive-related pipelines using OpenMetadata.
- Improved pipeline reliability by decoupling Grafana dependencies from critical execution flows.
- Managed operational incidents generated from Airflow operators and contributed to data-platform reliability.
- Worked with open-source data technologies including Spark, Kafka, Trino, Airflow, Hive, and OpenMetadata.

Yodawy - Tech Lead Software Development Engineer | Egypt Jan 2020 - Mar 2024

- Led a three-developer team delivering healthcare and insurance automation systems across multiple agile projects.
- Implemented 13 distributed web services using PHP, Laravel, Vue.js, Tailwind CSS, Java, Vert.x, Temporal, and Kafka.
- Increased processed insurance requests by 70% through backend, workflow, and automation improvements.
- Automated 85% of insurance decision and processing workflows, reducing manual operational effort.
- Redesigned database structures, reducing data storage by 92% and improving processing efficiency.
- Improved prescription processing throughput by 260% in a single process.
- Designed and implemented a multi-threaded event-based messaging service using Java, Vert.x, Temporal, and Kafka.
- Built real-time WebSocket and presence-channel capabilities using Pusher, and created RESTful APIs with automated testing practices.

Grovollo - Founder & Software Engineer | Netherlands / Remote Apr 2026 - Present

- Founded Grovollo, a Dutch product umbrella for AI-assisted tools across education, healthcare, finance, and personal growth.
- Launched IELTS Labs, an AI-powered IELTS writing improvement platform, using Nuxt, FastAPI, PostgreSQL, Redis, Vertex AI/Gemini, Stripe, Netlify, and Render.
- Built AI-powered writing analysis, IELTS band-score estimation, structured feedback, and AI-suggested essay improvements.
- Designed a custom analytics system tracking acquisition, activation, retention, learning behavior, AI feedback reactions, checkout events, and monetization.
- Implemented guest-to-signup flows, onboarding checklists, SEO pages, product guides, and credit-based pricing.

- Designed GroMed/RxFlow, an AI-assisted pharmacy prescription intake workflow using QR-based uploads and multimodal medication extraction.

Motoon - Software Engineer Intern | Egypt

Aug 2019 - Dec 2019

- Supported frontend and backend development while gaining practical experience in code review, Linux system administration, deployment, and server maintenance.

SELECTED PROJECTS

IELTS Labs - AI-powered IELTS Writing Platform

Launched May 2026

- Helps IELTS candidates practise writing, receive language feedback, estimate band scores, review weak words, and improve spelling based on their own mistakes.
- Stack: Nuxt, FastAPI, PostgreSQL, Redis, Vertex AI/Gemini, LanguageTool, Stripe, Netlify, Render, TypeScript, Python, Tailwind CSS.

GroMed / RxFlow - AI-assisted Pharmacy Intake Concept

MVP Design

- Designed QR-code prescription intake, image upload, AI medication extraction, pharmacist preparation workflow, and structured backend processing.
- Planned stack: FastAPI, PostgreSQL, Vertex AI/Gemini multimodal extraction, object storage, and messaging/dashboard notification flows.

EDUCATION

MSc Artificial Intelligence - Woolf / Udacity

Present

- Applied to an online master's program focused on artificial intelligence and modern technical skills.

B.Sc. Computer Science and Mathematics - Cairo University

2022

CERTIFICATIONS & PROGRAMS

- AWS Cloud Developer Nanodegree - Udacity, in progress
- Generative AI Nanodegree / Next Generation Tech Booster - Bertelsmann & Udacity, in progress