



Moayad Rayyan

VP of Engineering | Head of Engineering & Technology | Real-time AI platforms, hybrid infrastructure, financial-grade reliability

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Engineering executive with 13+ years building and operating high-performance platforms, the last six at VP and Head level. As co-founder and VP of Engineering & Technology at Own Experiences, I took a multi-modal emotional AI from scientific theory to a production platform deployed with Keolis-MHI and the RTA on Dubai Tram, at Neom and at Casa Batlló, and scaled it 25-fold. As Head of Engineering & Technology at Kifiya, I am accountable for DevOps, hybrid cloud, SRE and data-centre operations across seven partner banks, engaged to build the engineering foundation for expansion beyond Ethiopia and across Africa; cut production deployment time from three days to four hours. I have led teams of up to 18 engineers across three continents and co-authored a 2026 empirical paper on causal AI.

SELECTED RESULTS

50+

financial platforms (conventional and Islamic finance) under my infrastructure and DevOps ownership

3d → 4h

production deployment time, with quality gates enforced

25x

platform throughput, 20 to 500+ RPS, in two months

18

engineers led at peak across three continents; two departments built from zero

€1.5M

annual revenue reached in 2025 from a product I architected from theory

~35%

AWS spend cut through FinOps

EXPERIENCE

Head of Engineering & Technology · Kifiya Financial Technology

Addis Ababa, Ethiopia · remote from Dubai with regular travel · consultant, reporting to the Group CTO · Jan 2026 to present

Kifiya builds AI-driven credit decisioning, lending, payments and insurance platforms used by partner banks across Ethiopia. Engaged to bring the engineering and infrastructure foundation up to the standard needed to scale Kifiya's services beyond Ethiopia and across Africa. Accountable for the infrastructure and DevOps of 50+ financial platforms, conventional and Islamic (IFB), and for the architecture, governance, performance and operational integrity of the engineering platform and infrastructure estate (DevOps, hybrid cloud, SRE, data-centre operations), with platforms deployed inside the data centres of seven banks. Scope covers the multi-year engineering and infrastructure roadmap, SLO and error-budget governance, DR architecture to defined RTO/RPO, DORA-metric delivery governance with DevSecOps and policy-as-code, AWS and hybrid network architecture, FinOps, audit readiness, privileged-access governance and patch compliance in a regulated environment, and reliability and risk reporting to executive leadership.

- Designed the delivery flows and policies that cut production deployment time from a minimum of three days to four hours while enforcing quality gates: Deployment Readiness criteria, automated checks in CI/CD standardised across product lines, environments provisioned as code, and a single request path for deployment and support with service-level commitments.
- Migrated legacy platforms to containerised AWS ECS Fargate provisioned entirely with Terraform; unified Azure DevOps multi-stage pipelines with rolling updates, connection draining, automated Ansible rollbacks and audited break-glass hotfix workflows.
- Centralised all engineering access to partner-bank production environments through one controlled gateway with authorisation, logging and time-bound credentials; removed hardcoded credentials with an RBAC secrets vault.
- Designed the high-availability architecture for the platforms and the multi-bank network connecting them, within each bank's maintenance constraints; set the method for zero-downtime data-centre hardware upgrades, executed with no loss of data or service.

- Designed an on-premise, sovereign NVIDIA L40S GPU environment and high-availability MySQL read-replica bridges so AI credit-scoring models train and serve without touching production database performance; defined, with data leadership, a data architecture that scales with transaction volume.
- Reduced monthly AWS spend by about 35% through right-sizing and Compute Savings Plans; stood up a central SRE observability command centre on SigNoz with distributed tracing and anomaly detection.
- Built and lead a department of nine senior engineers and directors across cloud, DevOps and Kifiya's own data centre; replaced single-person ownership of systems with area squads to secure business continuity.

Co-Founder & VP of Engineering & Technology · Own Experiences SL

Barcelona, Spain · remote from Dubai · Jan 2020 to Dec 2025 · co-founder and shareholder to date

Deep-tech company building real-time emotional AI. Joined when the product was a scientific theory on paper; architected it from the first line of code and ran it in production. Two parts: Sentio, the platform-as-a-service (sessions, audio, vectorisation, routing, no-code portal and public APIs), and EDAA, the causal engine that learns the effect of an action on a person from live interactions inside a hardware-encrypted enclave.

- Scaled the platform from around 20 requests per second with a high error rate (Nov 2024) to over 500 requests per second with stable error rates (Jan 2025), a 25-fold gain in two months, by redesigning the data architecture for real-time processing, rebuilding the MLOps pipeline and cutting per-inference compute through algorithmic and FLOPs reduction, which also cut hosting cost by 30%.
- Led the company through a three-year product build and two years of commercial scaling to €1.5M in annual revenue in 2025; co-authored the empirical and technical white papers used with clients and investors.
- Dubai Tram (2022): three-month proof of validation with operator Keolis-MHI and the RTA across six trams and 29 drivers. The validation report quantified a 75% reduction in human-error incidents with zero signals passed at danger. Reported by Khaleej Times as the first system of its kind in the world.
- Neom (via Nagarro): simulation of 10,000 virtual humans at over 500 requests per second so planners could evaluate the emotional impact of designs before construction.
- Casa Batlló, Barcelona: visitor-state monitoring for a mobile virtual assistant delivering personalised content.
- Designed and implemented a Zero Trust security architecture across a remote, multi-country engineering team, with end-to-end encryption of all captured data, protecting proprietary models and user privacy.
- Built the engineering department from zero to eight engineers (AI/ML, full-stack, QA, DevOps); set department OKRs; designed the mentorship track that moved senior engineers into tech-lead roles.

Development Lead Engineer · Neutral Digital

United Kingdom · remote consultant from Dubai, alongside Own Experiences · Mar 2021 to Jan 2025

UK design and technology studio in aviation and real estate. Led development, infrastructure and system architecture.

- Delivered 36 Unity and web projects and turned five into white-label products for Qatar Airways, Kuwait Airways, British Airways and Air Canada, including in-flight entertainment apps built to run reliably across seatback hardware of differing age and capability.
- Cabinly: 360-degree cabin and seat exploration product, architected so any cabin configuration loads as data; licensed to other airlines. Shipped a football-themed game for Qatar Airways seatback screens during the 2022 World Cup on a fixed date.
- Real-estate sales platform with 3D and VR walkthroughs of unbuilt properties, integrated with showroom hardware so agents control lights, blinds and sound from one interface.
- Moved the studio from manual deployments to fully automated delivery: version-controlled infrastructure, automated provisioning, release pipelines for Unity builds and web platforms.

Senior Full Stack Developer & Team Leader · Ministry of Human Resources and Emiratisation (MOHRE)

Dubai, UAE · Jul 2017 to Dec 2019

- Led six senior engineers migrating legacy VB6 and ASP Classic systems to .NET Core and Angular without service interruption; received the Ministry's Best Leader Award for restoring integrity to undocumented systems.
- Delivered mission-critical B2C and G2G applications used by millions, plus mobile and tablet apps for work-from-home programmes.
- Built shared services reused across ministry teams (JWT authorisation server, SMS gateway, file storage) and APIs consumed by other government entities; optimised high-volume reporting over 100+ joined tables without added server load.

Senior Full Stack Developer & Team Leader · Keytech Security International

Dubai, UAE · May 2015 to Jul 2017

- Built an automatic number-plate recognition (ANPR) system with real-time image processing across 20+ camera channels at under two seconds latency, controlling parking barriers and detecting fraudulent and duplicate plates.
- Developed the security management platform (.NET, WPF, WinForms, ASP.NET) with camera, scanner, fingerprint, Emirates ID and signature-pad integration, real-time local-to-cloud synchronisation and subscription licensing.
- Grew the engineering team from a small squad to nine (seven developers, two QA) with code review, regression testing and release workflows.

Software Engineer · Ticsom

Dubai Silicon Oasis, UAE · Jun 2014 to May 2015

- Developed an electronic medical records system in C# integrated with clinical devices over HL7, a dental-clinic platform, ERP modules and an in-house CRM (PHP, MySQL).

Early career · 2011 to 2014

Web Developer, The Levanters, Amman (2013 to 2014) · Outsourced Developer, Skilltech-me, Dubai (2011 to 2013)

- Built web and mobile applications in PHP, MySQL, JavaScript and WordPress; migrated legacy applications to cross-platform stacks; trained a trainee developer team.

PUBLICATIONS & RECOGNITION

- Herrero, Saxena and Rayyan (2026), empirical paper on causal emotional AI, Zenodo
- Guest on an AWS podcast on emotional AI
- Khaleej Times, 30 October 2022: "Dubai: Emotional analysis to assess tram drivers in real time", on the Dubai Tram deployment
- UAE Golden Visa for Talents (2022) · Best Leader Award, MOHRE · Best Program Award, Philadelphia University (2013) · ACM Programming Competition Honourable Mention (2012)

EXPERTISE

Leadership: Technical strategy & roadmap, OKRs, Distributed teams up to 18, three continents, Hiring, mentorship, succession, Executive advisory, Reliability & risk reporting

AI & ML infrastructure: MLOps, Model optimisation & serving, FLOPs / algorithmic efficiency, Real-time inference, NVIDIA GPU compute, Hardware-enclave deployment

Infrastructure & reliability: Hybrid cloud (AWS, Azure), On-premise data centres, HA & DR design (RTO/RPO), Zero-downtime upgrades, Terraform / IaC, Kubernetes, Docker, FinOps

DevOps & delivery: CI/CD architecture, Azure DevOps, Ansible, Release governance, DORA metrics, DevSecOps / policy-as-code, SigNoz, Datadog, New Relic, Grafana

Security: Zero Trust architecture, End-to-end encryption, Privileged access management, IP protection, Data sovereignty, Audit readiness

Architecture & development: Microservices, Event-driven & real-time (gRPC, HTTP/2), Serverless, SaaS / PaaS design, High-volume data architecture, .NET Core / C#, Python, TypeScript / Angular, PHP, Unity

Domains: FinTech & regulated banking, Credit decisioning, Emotional AI, GovTech, In-flight entertainment, Computer vision

EDUCATION & LANGUAGES

- **BSc Software Engineering**, Philadelphia University, Amman, Jordan (2014). GPA 3.7 / 4.0 · ITSAF participant (2013)
 - **CTO Mentorship Program**, executive track in technical strategy and leadership
 - Arabic (native), English (fluent)
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