Mohammad Hossein Malek

Forward Deployed AI Engineer

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Dutch permanent resident. Open to remote work and to relocation.

PROFILE

Forward deployed AI engineer with 12 years of software engineering, the last 3 embedded with enterprise customers: scoping the problem with their teams, building agents and retrieval pipelines on their data, and getting them into production workflows with evaluation frameworks and guardrails. Works end to end: gathers requirements with stakeholders, writes the PRD, translates between technical and non-technical people, designs the solution, builds it hands-on and takes it through release and rollout with customer success. Shipped software across six industries: supply chain, telecom, aviation, healthcare, mobility and payments. Python, TypeScript, AWS and GCP. Earlier, led a team of four at Snapp, the Middle East's largest ride-hailing service: mentored medior and junior engineers, owned system design and the shared UI kits, and worked with product, UI/UX and sales on the B2B product.

SKILLS

AI and LLMs	agents and tool use, RAG, evals (golden sets, LLM-as-judge), guardrails and PII handling, prompt and context engineering, latency and cost optimization
Models and frameworks	Claude, OpenAI, Gemini, Amazon Bedrock, LangGraph, LangChain, MCP, pgvector
Architecture and design	system design, solution architecture, API and data-model design, event-driven architecture, microservices, multi-tenant SaaS, RFCs and ADRs
Programming	Python (FastAPI, Pydantic), TypeScript, Node.js, Go, SQL, React
Data engineering	Airflow, dbt, Spark, Kafka, BigQuery, Snowflake, PostgreSQL, data modeling, ELT pipelines, data quality
Cloud and platform	Kubernetes, Docker, Terraform, AWS, Google Cloud, CI/CD (GitLab, GitHub Actions), observability, IAM and RBAC (Keycloak, OIDC)
Customer and enterprise	technical discovery, enterprise integration (SSO, OIDC), security reviews (SOC 2, ISO 27001), pilots to production, pre-sales deep dives, stakeholder management
Languages	English (full professional) · Persian (native) · Dutch (elementary)

EXPERIENCE

Senior Full-Stack / Platform Engineer · TRACT

Amsterdam, Netherlands · Nov 2024 – present

TRACT's platform turns supplier data into EUDR deforestation compliance, Scope 3 emissions and human-rights risk reporting for global supply chains.

- Owned 6 enterprise customer rollouts end to end: ran technical discovery with their sourcing, sustainability and IT teams, connected their supplier and ERP data, and shipped a working first version in 2 to 4 weeks, handed over with runbooks and training.
- Gathered requirements with customer and internal stakeholders, wrote the PRDs, explained trade-offs to technical and non-technical audiences, and worked with customer success after each release.
- Built a multilingual assistant for suppliers on Claude with LangGraph and tool calling over the platform's guidance and each supplier's open data requests; it resolves 38% of supplier questions without a support ticket.
- Designed matching of uploaded supplier, farm and plot records against 1.2M existing records with hybrid search, reranking and pgvector; match recall on a 300-case golden set went from 0.61 to 0.84.
- Set up the evaluation framework before each AI feature launched: golden datasets written with the sustainability and compliance experts, LLM-as-judge calibrated against human review, regression suite in CI; release decisions were made on those numbers, not on demos.
- Ran 20+ technical deep dives with prospects alongside sales, and turned customer learnings into 3 platform features shipped by the product team.

Stack: Python, TypeScript, LangGraph, Claude, pgvector, Kubernetes, Google Cloud

Senior Software Engineer · VodafoneZiggo, via iO

Utrecht, Netherlands · Apr 2024 – Nov 2024

Dutch mobile, broadband and TV operator; customer self-service platform and its APIs. Placed through iO.

- Owned the order and self-service APIs used by the web shop and the customer app; shipped versioned changes without a breaking change for the consuming teams.

- Moved the self-service services to Kubernetes with Terraform-managed infrastructure; deploy frequency went from weekly to daily.
- Built the event-driven pipeline that turns usage, order and provisioning events into customer notifications such as data-limit alerts and order updates, 20M events a day on Kafka and PostgreSQL.
- Mentored 4 engineers; introduced the design-review and incident-review practices the team still uses.

Stack: TypeScript, Node.js, Kafka, PostgreSQL, Kubernetes, Terraform

Senior Software Engineer · KLM Royal Dutch Airlines, via iO

Amsterdam, Netherlands · Aug 2022 – Apr 2024

Crew and flight-management systems used daily by operations staff worldwide. Placed through iO.

- Rebuilt a legacy frontend as a component-based React and TypeScript architecture for mission-critical crew and flight-operations tools, improving page performance and maintainability.
- Built the test-automation foundation with Cypress and Jest and wired it into the CI/CD pipeline, reducing production incidents.
- Defined the team's code-review and clean-architecture standards, raising code quality across a shared codebase.
- Worked in an agile, cross-functional team with product owners and designers, delivering features for daily airline operations.
- Ran internal workshops and wrote onboarding material that brought new iO engineers up to speed on client teams.

Stack: React, TypeScript, Node.js, Jest, Cypress

Senior Software Engineer · Quin, via iO

Amsterdam, Netherlands · Aug 2021 – Aug 2022

Health-tech start-up building a health-tracking app and triage tools for primary care, a regulated healthcare setting. Placed through iO.

- Built the React Native health-tracking app; its data-science models, trained with an on-site GP, automate parts of patient triage.
- Led the enterprise integrations: a new web app that connects directly to GP and hospital systems through the FHIR healthcare standard.
- Built to healthcare compliance requirements: patient data handled as special-category health data under GDPR, and test coverage on every part of the app.

Frontend Engineer · Snapp

Tehran, Iran · Jul 2018 – Jan 2021

The largest ride-hailing service in the Middle East.

- Led a team of four engineers and mentored its medior and junior engineers.
- Owned the system design of Snapp's passenger, B2B and snapp.ir web apps, and their shared React UI kits.
- Worked across functions with product, UI/UX and sales on the B2B corporate product.

Software Engineer · Phonepay

Tehran, Iran · Mar 2017 – Jul 2018

Frontend Developer · Chilivery

Tehran, Iran · Feb 2014 – Mar 2017

SELECTED WORK

polycontext — One API over seven code-AI backends, with retrieval and evals. github.com/MHMALEK/polycontext

agentic-ai-automation — Jira ticket in, coding agent at work, pull request out. github.com/MHMALEK/agentic-ai-automation

gcp-relay — GCP event pipelines on a laptop, from one YAML file, in Go. github.com/MHMALEK/gcp-relay

TEACHING, SPEAKING AND MENTORING

Speaker, React Conf Iran 2019 — “Progressive web apps in practice”, to about 800 people at one of the largest React conferences in Tehran.

Teacher and mentor — Designed and teach an 85-hour React and JavaScript course at Amanj Academy (2020 to present), write free Persian-language courses for Iranian developers, and mentor junior and medior engineers.

EDUCATION AND CERTIFICATIONS

- M.Sc. Industrial Engineering, project management, Azad University, 2018 to 2020
- B.Sc. Mechanical Engineering, Azad University, 2011 to 2016
- AWS Certified Solutions Architect (in progress)