MEHDI KHODER

Birmingham, UK | mehdi.mahmoud@gmail.com | https://topmate.io/mehdi_khoder

PROFESSIONAL SUMMARY

Delivery-driven and cloud-native Software Architect Engineer adept at leading distributed Agile teams to modernise platforms, scale delivery, and streamline development workflows. I leverage a strong foundation in Cloud ecosystems and DevOps transformation, including practical experience in integrating large language models (LLMs), RAG and vector search. I'm passionate about solving real problems by applying strong technical direction and fostering reliable, AI-enhanced delivery.

KEY SKILLS MATRIX

- **AI & ML**: Azure, Google AI Studio, GCP ML studio, Prompting Engineering, RAG, Agentic workflow, GenAI
- **Cloud Platforms & Infra**: MS Azure (DevOps, RM, SQL, RBAC, VM, Containers), Docker, K8s
- **DevOps & Automation**: Azure DevOps, Jenkins CI/CD, Git, SVN, Bitbucket, Custom daemon agents, Prometheus, Grafana
- **Methodologies & Concepts**: Agile, Scrum, Kanban, CI/CD, SDLC optimisation, BDD, TDD, Design Patterns, Architectural Patterns (SOA, Microservices, Event-driven)
- **Backend Technologies**: Python , Go, Java, Spring Boot (Core, Security), Hibernate, Apache Camel
- **APIs & DB**: .NET Core , RESTful APIs, SOAP, OpenLink Virtuoso, RDF, Sybase, SQL Server, Azure SQL
- **Frontend & Web**: ReactJS, AngularJS, Thymeleaf, HTML5, CSS3, Bootstrap, JQuery, Typescript
- **Tools & Environments**: IntelliJ IDEA, Eclipse, Android Studio, VS Code, Cursor, Windsurf, Atlassian Jira, Confluence, Bitbucket, Slack

KEY PROJECTS

RAG LLM-Powered Assistant | https://github.com/mehdimahmoud/llm-rag-chroma-demo **2025**
- Built a Retrieval-Augmented Generation (RAG) assistant combining Langchain, HuggingFace, ChromaDB for vector search with OpenAI for document-based responses.

Azure Infrastructure Automation | https://github.com/mehdimahmoud/azure-storage-arm-bicep-demo **2025**
- Created a deployment framework using Azure ARM and BICEP templates for provisioning Azure resources, automated with GitHub Actions.

N8N Workflow Automation | https://github.com/mehdimahmoud/n8n-docker **2025**
- Built a Dockerised `n8n` platform integrating LLM agents to enhance backend automation workflows.

Event-Driven Agentic Workflows | https://github.com/mehdimahmoud/event-driven-agentic-document-workflows **2025**
- Implemented an agentic document automation pipeline using Python 3.9.6, LlamaIndex, RAG Search Agent, OpenAI, LLM and Llama VectorStoreIndex embeddings models, and Gradio interface.

OpenAI Assistant Integration **2024**
- Prototyped an OpenAI-based assistant for internal DevOps code review on legacy PHP components using Azure AI Studio and OpenAI LLM models.

CERTIFICATIONS & AI TRAINING

- **LeadWithAIAgents Hackathon**: Hackathon 2025 | https://badgr.com/public/assertions/lSQfzgKNTJG7TnLp_xih5Q
- **LangChain for LLM Application Development**: DeepLearning.AI | https://learn.deeplearning.ai/accomplishments/708c30f3-cc6e-4b10-8d56-bb59ceb45e8f
- **Event-Driven Agentic Workflows with LLMs**: DeepLearning.AI | https://learn.deeplearning.ai/accomplishments/b4b31db7-63fe-49d2-8aa5-69548486fc10
- **AI Automation Showcase – minCON Credential (Credsverse)**: Marktechpost AI Media Inc | https://credsverse.com/credentials/0068315e-62bd-4d65-b848-9e4b9e067308

EXPERIENCE

Freelance/Self-employment **Apr 2025 - Present**
AI Engineer | Solutions Architect *Birmingham, UK*

I am a freelance technical strategist specialising in AI-powered solutions for real-world business challenges. With a background in software engineering management and architecture, I am building a portfolio that incorporates automation, generative AI, and large language models (LLMs). Rather than offering a single product, I create a library of modular, AI-driven components and services for solopreneurs, digital agencies, and innovative businesses. Currently, I:

- Developed intelligent automation flows using n8n and AI agents to streamline operations like lead qualification, form handling, and content transformation, resulting in improved efficiency and reduced manual workload
- Created GenAI solutions for personalization at scale, such as CV vs JD matching, branded slide generation, and storytelling pipelines, enhancing user engagement and customization
- Developed RAG pipelines to support knowledge-rich domains like training, sales, and operations, facilitating better information retrieval and decision-making
- Designed reusable AI templates for agency enablement, service freelancers, and content-driven businesses, leading to faster deployment and increased scalability
- Consolidated projects into GitHub for showcasing capabilities and demoing to private client.

ParentPay/ESS   Dec 2023 - Mar 2025

Software Development Manager   *Birmingham, UK*
- Scaled two distributed engineering teams (UK & India) supporting Cedar and LMC product lines; grew from 3 to 8 engineers to meet roadmap goals.
- Established Agile processes and SDLC best practices over 6 months with continuous team integration improvements, enhancing delivery coordination and developer onboarding.
- Initiated Dockerisation of Cedar's legacy PHP stack, improving local setup and development efficiency.
- Managed Azure Resource Manager (RBAC, VM, Container access) and supported onboarding of Dev teams into Azure DevOps and Azure Portal environments.
- Built a prototype OpenAI-based assistant to support internal code review on legacy PHP code.
- Participated in early-stage stakeholder analysis for integrating third-party APIs (Wonde), focusing on Dev/QA impact and feasibility.
- Fostered a collaborative team culture with mentoring, knowledge sharing, and cross-functional coordination.

CAPITA/ESS   Jul 2018 - Dec 2023

Solutions Technical Architect   *Birmingham, UK*
- Led the migration of CI/CD pipelines from Jenkins to Azure DevOps (completed in 2 months) and transitioned version control from Bitbucket and SVN to Git within Azure Repos, enabling unified cloud-native workflows.
- Led the migration of Sybase databases to Azure SQL, including schema conversion, data transfer, and backend project refactoring to align with the new cloud architecture.
- Defined a cloud-native redesign for the company's EDI gateway using Azure services and Apache Camel, enabling real-time data exchange across library/supplier networks.
- Managed high-risk Virtuoso cluster migration (v6 to v8) with 1TB RDF data by analyzing workflows, establishing KPIs, and conducting comprehensive testing to ensure reliable integration. - ***Spotlight Award** for "Trust, Brave and Responsible"*
- Designed secure password Admin management for staff accounts within the Soprano system, ensuring compatibility with existing backend architecture and data model constraints.
- Regularly collaborated with product managers, infrastructure teams, and architecture leads to scope, estimate, and execute platform-level changes.

Capita - Libraries   Mar 2017 - Dec 2018

Senior Java Backend Developer   *Birmingham, UK*
- Delivered RESTful backend APIs for the LMS (Soprano) using Java, Spring, and Hibernate, which improved system performance and user experience
- Led subject matter expertise, pairing, and mentoring across cross-functional teams, resulting in a 20% increase in project completion rates and more efficient collaboration.

Resharmonics   Jul 2016 - Oct 2016

Java/Mobile Developer   *Birmingham, UK*
- Developed Lapland UK's mobile-friendly booking portal using Spring Boot, Thymeleaf, and Bootstrap.

WiDisplay (Co-founder)   Oct 2013 - Jun 2016

Android Developer   *Grenoble, France*
- Built and maintained the YapaPhoto app for official photo ID capture; integrated Google Play APIs and Parse backend.

International Experience   2004 - 2013

Various Roles   *Dubai, France, HongKong*
- Delivered Java/J2EE solutions across banking, insurance, and enterprise sectors in Dubai, France, and Hong Kong, including SOAP services, cloud architectures, and system integrations for major clients like Zurich Insurance, BNP Paribas, and Crédit Agricole.

EDUCATION

Grenoble Institute of Technology   2002 - 2003

Master 2 Research Graduate   *Grenoble, France*
- **Achievements:** 3D Simulation inComputer Sciences, Electrical Engineering Research

Polytech'Tours   1999 - 2003

Meng   *Tours, France*
- **Achievements:** Computer Sciences, Electronic and Electrical Energy Systems

INSA Val-de-Loire   1998 - 1999

License Graduate   *Blois, France*
- **Achievements:** Integrated Preparatory School

University of Sciences   1996 - 1998

License Graduate (DEUG A)   *Tours, France*
- **Achievements:** Computer Sciences, Mathematics, Physics, Chemistry