

# Majd Alkayyal

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## SUMMARY

Senior Software Engineer & LLM Systems Architect with 4+ years of experience building distributed backend and AI systems at KPMG, PwC, and fintech startups. MSc Data Engineering (TUM). Specialized in applied LLM engineering, including multi-agent systems, RAG pipelines, and AI-driven automation. Delivered cross-functional projects with McKinsey and Fusionbase, bridging academic research and real-world enterprise deployment.

## EXPERIENCE

### KPMG Deutschland

Senior Software Engineer – Assistant Manager

Munich, Germany  
Jul. 2024 - Present

- Co-leading a 40+-engineer global team (Germany, US, India, Poland) delivering KPMG's Transfer Pricing Reporting platform.
- Lead features and architecture design for modules, including multi-ToC reports, generic report structuring, and Master File generation under complex compliance rules.
- Reduced report generation time from 1–2 hours to 15 minutes by refactoring pipelines, introducing caching, and offloading computation to Azure Functions microservices.
- Overhauled Git branching & release management, coordinating 6 QA environments, UAT, and production releases with DevOps and business teams.
- Serve as Release Manager, triaging production issues, planning hotfixes, and aligning QA and business validation cycles.
- Conduct daily code & PR reviews across a 2M+ LOC codebase, mentoring developers and ensuring code-quality standards.

### McKinsey & Company / Technical University of Munich (TUM)

LLM Research Engineer – StrategicAI Project (Master's Thesis)

Munich, Germany  
Oct. 2024 – Apr. 2025

- Independently designed and developed StrategicAI, a multi-agent LLM decision-support system combining retrieval-augmented generation (RAG), tool use, and autonomous collaboration between agents to identify root problems, explore and validate solutions using McKinsey style issue tree frameworks.
- Built the end-to-end LLM pipeline using LangChain and custom Python orchestration, enabling structured reasoning and evidence-grounded decisions.
- Implemented dynamic prompting frameworks for agent role alignment, context retrieval, and strategy justification; optimized response consistency and factual grounding.
- Achieved superior performance to ChatGPT-4o in strategic decision making; results published at ECML 2025.
- Delivered the complete system, UI, deployment on AWS and evaluation suite in under 5 months as part of a research–industry collaboration with McKinsey & Company.

### Fusionbase / Technical University of Munich (TUM)

AI Systems Engineer – Project Lead (Industry-Academia Collaboration)

Munich, Germany  
Oct. 2023 – Jun. 2024

- Led a 4-member team to design and build CreateData4AI, a collaborative annotation platform for data-centric AI.
- Developed the full-stack web platform (Next.js + FastAPI + MongoDB) enabling distributed labeling.
- Engineered the GPU/CPU-optimized pipeline using Ray for distributed embedding computation, reducing dataset processing from 6 days to under 5 minutes for 100 MB datasets.
- Implemented real-time collaboration features, enabling multiple users to jointly perform annotation refinement tasks.

### PwC Deutschland

Associate Software Engineer (Working Student)

Munich, Germany  
Apr. 2023 – Jun. 2024

- Built and maintained PwC's internal AuthaaS platform, providing unified SSO for multiple internal applications.
- Implemented version-controlled decision-tree backends for automated workflow systems to improve auditability.
- Developed and executed integration tests to detect regressions in legacy services, reducing post-release incidents.
- Improved observability by integrating Prometheus and creating Grafana dashboards for key service metrics.
- Authored detailed API and backend documentation to streamline onboarding and handovers.

### TelyPay (Maaly)

Senior Software Engineer & Project Manager (Full-time)

Muscat, Oman  
Feb. 2022 – Oct. 2022

- Rebuilt the company's fintech ecosystem from the ground up, replacing legacy systems and boosting performance.
- Led a 6-engineer cross-functional team (backend, frontend, mobile) while serving as lead backend and database architect.
- Designed and deployed new products — including a personal finance tracker and invoice management system — on AWS, cutting hosting costs after migration from Oman Data Park.

- Delivered the invoice app MVP in one week, launching a new product line.
- Oversaw architecture, deployment, and infrastructure maintenance; mentored developers and set engineering standards.
- Contributed to product strategy, UX, and cloud optimization, enabling a successful public launch.

Muscat, Oman  
Oct. 2022 – Nov. 2024

Technical Consultant (Part-time)

- Led integrations with major Omani banks to create one of the country’s first Open Banking API aggregators.
- Developed hybrid LLM- and rule-based financial parsers using OpenAI APIs to classify SMS transactions more accurately.
- Advised on product scalability, cloud optimization, and backend architecture, supporting the company’s growth and recognition as *Best Financial App in Oman (COMEX 2023)*.

Webware

Full-Stack Developer

Muscat, Oman  
Feb. 2020 – Apr. 2021

- Designed and deployed the Dar Al Atta’a Charity App, enabling mobile and web donations for local causes.
- Integrated online payments, SMS, and email notifications, improving the efficiency of donation and case management.
- Hosted and managed infrastructure on Oman Data Park IaaS, ensuring secure and stable operations.
- Delivered the project independently from concept to deployment, marking the company’s first fully in-house mobile product.

EDUCATION

Technical University of Munich (TUM)

M.Sc. Data Engineering and Analytics (cGPA 1.3/1.0)

Munich, Germany  
Oct. 2022 – Apr. 2025

- Graduated in the top 10% of the cohort; recipient of the DAAD Master Scholarship for academic excellence.
- Served as Teaching Assistant for *Foundations in Data Engineering*, teaching C++, SQL, distributed consensus algorithms (Raft), and knowledge graphs to Master’s students.

German University of Technology in Oman (GUtech)

B.Sc. Computer Science (cGPA 4.0/4.0)

Muscat, Oman  
Jun. 2016 – Sep. 2021

- Graduated first in the university, awarded the Academic Rector’s Medal and a DAAD Bachelor Thesis Scholarship for research at RWTH Aachen.
- Bachelor Thesis (RWTH Aachen): Designed and implemented an open educational resource mobile app (Flutter + .NET Core) adopted by German schools to teach Creative Commons licensing; achieved 80%+ usability satisfaction in pilot studies.
- Served as a Teaching Assistant for C++/Data Structures for one academic year, mentoring first/second-year students.

HONORS & AWARDS

DAAD Master Scholarship

Munich, Germany  
Oct. 2022 – Jul. 2024

Awarded for top 5% academic excellence and research potential.

Academic Rector’s Medal

Muscat, Oman  
Mar. 2022

Conferred to the top graduating student across all majors at GUtech.

DAAD Bachelor Thesis Scholarship

Aachen, Germany  
Apr. 2021 – Sep. 2021

Secured one of two GUtech–RWTH scholarship seats to conduct thesis research in Germany on Open Educational Resources.

Oman Education Services (OES) Scholarship

Muscat, Oman  
Jun. 2016 – Sep. 2021

Full merit-based scholarship; first and only recipient in the university’s history that year.

ICPC Oman Champion – International Collegiate Programming Contest

Muscat, Oman  
2019

First place nationally, qualified for the Egypt regional (unable to attend due to travel restrictions).

LANGUAGES

English – C1

German – A2

Arabic – Native