

AHMAD EL-ALI

AI Trainer & Automation Consultant

Understand AI | Guide teams | Automate everyday work
Lage, Germany | +49 15679 513837 | ahmad@el-ali.de | el-ali.de

Fully remote | English and German | Training, guidance and implementation

PROFILE

I help business and engineering teams use AI effectively, assess its results and automate repetitive work. My focus is clear teaching, practical exercises and guidance, tailored to the team's tasks and experience. I work fully remotely in English and German, directly with companies or as an instructor for training providers.

My foundation is around eight years in software engineering, team leadership and product building: teams of up to 25 engineers, the Studeez AI learning platform with more than 150,000 users through to an exit, and LearnLayer for learning and skills development. I combine teaching with the technical experience to implement suitable solutions myself.



SELECTED OUTCOMES

25 engineers led in regulated banking software	150,000+ users of the Studeez application	60%+ higher testing efficiency at Hörmann	250+ ideas per quarter managed digitally
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CORE CAPABILITIES & TECH STACK

AI Training & Guidance: Explain complex topics clearly, practise on participants' own tasks, give useful instructions, check results and guide teams through adoption

Process Analysis & Automation: Identify repetitive tasks, select suitable applications and connect tools and data; Power Apps, Power Automate, reporting and ERP/CRM integration

Education Products & Team Leadership: Studeez and LearnLayer, learning and skills development, teams of up to 25 engineers, knowledge transfer, feedback and collaboration with business functions

AI Applications & Integration: LLM applications, AI agents, MCP, RAG, semantic search, APIs, data models, authentication, roles and reviewable results

Software Engineering & Quality: Python/FastAPI, TypeScript, React, React Native, C#/.NET, SQL, ERPNext/Frappe, automated testing, reviews, documentation and controlled releases

Technical Operations: Supabase/PostgreSQL, AWS, Docker/Compose, Helm, Kubernetes, Netlify, Fly.io and CI/CD as the foundation for integration and implementation

SERVICES & ENGAGEMENTS

AI Training Interactive online training for business and engineering teams, from AI fundamentals to AI-assisted software development.	Guided Application Scheduled follow-up sessions with practice, feedback and support on the team's own tasks.	Automation Projects Review a clearly scoped process, implement the workflow, check it together and provide a documented handover.
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EDUCATION & LANGUAGES

M.Sc. Innovation & Technology Management | Wilhelm Buechner University | 11/2018 - 10/2020

B.Sc. Computer Engineering | Paderborn University | 04/2014 - 03/2018

German: native | English: fluent | Spanish: good working knowledge | Arabic and Russian: basic

PROJECT EXPERIENCE

AI Consulting, Training & Workflow Automation - Self-employed

Project Engagements | SaaS, AI, Platforms and Process Digitisation

10/2018 - present

Freelance software engineering and technical consulting since 2018. Current focus: guide business and engineering teams in applying AI to their work and automate suitable processes.

- **AI training and guidance:** Explain complex ideas clearly, demonstrate practical AI use on real tasks and guide teams as they apply the tools and check their results.
- **Workflow automation:** Understand business processes, select suitable applications and connect existing tools, data and systems into workflows people can follow.
- **Technical implementation:** Build custom SaaS and B2B applications from requirements and architecture to implementation, testing, documentation and handover.

Technologies: Python, FastAPI, TypeScript/JavaScript, React, React Native, C#/.NET, SQL, REST APIs, LLMs, MCP, Supabase, AWS, Docker, Helm, Kubernetes, CI/CD

Managing Partner & Product/Engineering Lead

Studeez GmbH | Mobile AI Learning and Productivity Platform

03/2023 - 10/2025

Built and scaled a consumer EdTech product from vision, team and architecture through mobile releases, cloud operations, growth beyond 150,000 users and exit.

- **Product and team ownership:** Owned product vision, roadmap, team building, budget priorities, technical architecture and end-to-end delivery for the mobile and web platform.
- **Mobile application:** Built a cross-platform iOS, Android and web application with React Native, Expo, Expo Router and TypeScript, reusable components, state management and multilingual UX.
- **Backend:** Built and operated a Python/FastAPI backend with modular routers, asynchronous processing, Pydantic contracts, Supabase integration and separate staging/production configuration.
- **Data and platform:** Used Supabase/PostgreSQL for authentication, relational data, storage, realtime and Edge Functions; designed data models, API access and background workflows.
- **AI capabilities:** Delivered AI chat, flashcards, summaries, exam and essay workflows, thesis support, semantic PDF structuring and document-based learning content.
- **Documents and media:** Implemented PDF, audio and video processing, extraction, Whisper transcription, ffmpeg workflows and server-side PDF, DOCX and Markdown generation.
- **Auth, payments and engagement:** Integrated Google and Apple authentication, secure local tokens, Expo push notifications, Stripe checkout/webhooks and Adapty mobile subscriptions.
- **Release and operations:** Managed EAS builds and store releases for iOS/Android and operated FastAPI on Fly.io with staging/production, autoscaling, health checks and controlled promotion.
- **Quality and scale:** Used Jest and pytest, model evaluations, dependency/security checks, and hardened memory, concurrency and retry behaviour for production load.
- **Exit:** Held entrepreneurial responsibility through the sale of company shares and the technical and operational platform handover.

Technologies: React Native, Expo, Expo Router, EAS, TypeScript, Zustand, Python, FastAPI, Pydantic, Supabase, PostgreSQL, Storage, Realtime, Edge Functions, OpenAI/Whisper, PDF and media processing, Stripe, Adapty, OAuth, Expo push notifications, Fly.io, Jest, pytest

Project Engagement: LearnLayer

Product, team and architecture
build

Multi-Tenant SaaS for Learning, Workforce Development and Recruiting

SELF-EMPLOYED

Built an engineering team and modular platform family with hosted SaaS and private on-premise variants.

- **Product architecture:** Structured Academy, Workforce, Admin and Recruiting applications around shared TypeScript packages and explicit domain boundaries.
- **Frontend and backend:** Delivered React/Astro applications and Python/FastAPI services for content, media, skills, workforce and recruiting workflows.
- **Data and security:** Used Supabase/PostgreSQL with Auth, Storage, versioned migrations, tenant-isolating RLS policies, pgTAP verification and auditable server endpoints.
- **AI and MCP:** Built LLM-assisted content/media generation, skills/candidate workflows, and an MCP server with OAuth connectivity for external AI clients.
- **Hosted deployment:** Separated staging and production across Netlify, Fly.io and Supabase with controlled migrations, health checks and exact release SHAs.
- **On-premise:** Built Docker Compose and Helm/Kubernetes deployments covering Postgres, PostgREST, GoTrue, Storage, Functions, FastAPI web/worker, nginx and the SPA.
- **Release engineering:** Versioned container images and Helm charts with migration hooks, secrets, smoke tests, reproducible upgrades and rollback paths.
- **Quality gates:** Implemented GitHub Actions for type checks, Vitest, pytest, FastAPI integration tests, pgTAP/RLS verification, Playwright E2E and architecture/performance gates.

Technologies: TypeScript, React, Astro, Python 3.12, FastAPI, Supabase/PostgreSQL, Auth, Storage, RLS, pgTAP, LLM APIs, MCP, OAuth, Docker Compose, Helm, Kubernetes, nginx, PostgREST, GoTrue, GitHub Actions, Vitest, pytest, Playwright, Netlify, Fly.io

Innovation and Technology Manager

01/2022 - 08/2025

Miele Professional

Built data- and technology-enabled innovation processes across business teams, product owners and management.

- **Idea management:** Designed and introduced a digital idea-management system processing more than 250 ideas per quarter for structured evaluation and prioritisation.
- **Workflow digitisation:** Mapped submission, assessment, status tracking and reporting in Microsoft Power Apps, replacing fragmented manual workflows.
- **Cloud platform:** Used Microsoft Azure as part of the Microsoft-based solution and automation environment around Power Apps and Microsoft 365.
- **Technology scouting:** Automated research, synthesis and assessment of technology trends using LLMs and web scraping.
- **Decision support:** Prepared technology options, risks and value hypotheses for management and stakeholder decisions.
- **Process design:** Connected technology monitoring, portfolio prioritisation and transparent tracking in a repeatable innovation process.

Technologies: Microsoft Azure, Microsoft Power Apps, Microsoft 365, LLMs, web scraping, workflow automation, reporting, technology scouting, stakeholder workshops

Client Engagement: Fractional Head of Engineering Regulated Banking, GRC and Controlling Platform

02/2026 - 09/2026

SELF-EMPLOYED

Technical ownership of architecture, delivery, engineering quality and working practices for a 25-person engineering organisation in a regulated product environment.

- **Engineering leadership:** Led 25 engineers and clarified ownership, priorities and dependencies across backend, frontend, modules, data and operations.
- **Platform architecture:** Evolved a modular .NET platform using Clean Architecture principles, isolated domain modules, a Next.js frontend and tenant-specific configuration.
- **Backend, APIs and data:** Guided ASP.NET Core, Entity Framework, REST/OpenAPI, PostgreSQL and MSSQL architecture, plus Hangfire background jobs and SignalR realtime communication.
- **AI reporting:** Directed AI-assisted reporting and analysis using provider abstractions, tool calling, server-controlled orchestration and automated evaluations.
- **AWS:** Built and hardened deployment paths from Bitbucket OIDC/IAM to Amazon ECR and ECS/Fargate, plus containerised EC2 demos and pipeline integration with Terraform outputs.
- **Containers and Kubernetes:** Established Docker and Compose runtime environments plus Helm packages for Kubernetes with versioned configuration, secrets, jobs and reproducible rollouts.
- **Data migration:** Guided a .NET migration pipeline from MSSQL to PostgreSQL covering extraction, mapping, import, progress reporting, retry/recovery and Docker/Kubernetes jobs.
- **Engineering quality:** Established code reviews, unit, integration and evaluation tests, stronger definitions of done and controlled staging, production and rollback processes.
- **AI engineering enablement:** Introduced disciplined AI-assisted development across context preparation, implementation-ready specifications, review, testing, documentation and traceable decisions.

Technologies: C#/.NET 10, ASP.NET Core, Clean Architecture, Entity Framework Core, Next.js 15, React 19, TypeScript, REST/OpenAPI, SignalR, Hangfire, PostgreSQL, MSSQL, Docker, Helm, Kubernetes, AWS ECS/Fargate, ECR, EC2, IAM/OIDC, Terraform, Bitbucket Pipelines, xUnit, AI provider APIs

Project Engagement: Business Analysis & Data Integration

Project duration: approx. 1 year

Anonymised Grid Expansion Project | Digital Construction and Management Platform

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Supported business analysis, data integration and component development for a digital construction and management platform designed to make planning and construction prerequisites transparent and manageable across business functions in a grid expansion programme.

- **Business analysis:** Supported the analysis of business requirements and dependencies across multiple functions along planning and construction processes.
- **Data models and pipelines:** Contributed to integrated data models and pipelines for geospatial, land, process, schedule and status data from different source systems.
- **GIS and geodata:** Linked georeferenced data across different spatial and construction structures to visualise and support management of project progress.
- **ETL and system integration:** Supported the consolidation and transformation of data from business applications, GIS systems, scheduling tools, databases and map services, including automated ETL processes.
- **Applications and workflows:** Contributed to Power Apps applications and Power Automate workflows for cross-functional collaboration, process tracking and construction coordination.
- **BI and reporting:** Developed and enhanced Power BI reporting and tiered management views for management, project controls, business functions and operational users.

Technologies: Business analysis, data modelling, data pipelines, GIS/geodata, ETL, system integration, Power BI, Power Apps, Power Automate, relational databases, map services, scheduling, reporting, process automation

Project Engagement: ERP and Process Integration Platform

Solution architecture and
delivery

ERPNext/Frappe | Media Planning, Sales and Process Integration

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Digitised operating media, CRM, quotation, booking and billing processes in one central ERP platform.

- **Domain model:** Translated complex requirements into versioned DocTypes, child tables, status models, roles, permissions and traceable data flows.
- **Media planning:** Implemented master data, availability, campaigns, bookings, conditions, pricing, utilisation and planning reports.
- **ERP integration:** Connected planning objects to ERPNext Quotation, Sales Order and Sales Invoice without duplicating standard process and accounting logic.
- **Migration and APIs:** Built import/synchronisation paths for Dynamics CRM extracts, source references, checksums and external systems through robust services and whitelisted APIs.
- **Security and audit:** Implemented role-based permissions, permission query conditions, field-level access, version history and controlled administrative workflows.
- **Quality:** Built unit, contract and installed-site Frappe tests for validation, permissions, pricing, bookings, reports, imports and repeatable migrations.
- **Operations:** Maintained local, staging and production environments with Docker Compose, MariaDB/Redis, custom images and GitHub Actions-based sync/deploy workflows.

Technologies: ERPNext 16, Frappe Framework 16, Python, JavaScript, MariaDB, Redis, DocTypes, Frappe ORM, REST/whitelisted APIs, Docker Compose, GitHub Actions, pytest/FrappeTestCase, Dynamics CRM migration

Project Engagement: CloudMensa

Architecture and product
engineering

Multi-Tenant Digital Signage for Canteens and Food Service

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Cloud platform for centrally managing menus, displays, templates, roles and time-controlled content.

- **Product capabilities:** Delivered dishes, allergens, pricing, media, screen assignment, calendar scheduling, dayparting, content rotation and multilingual public menus.
- **Template engine:** Built a browser HTML/CSS/JavaScript editor with variables, live preview, multiple aspect ratios and PDF/image export.
- **Backend and security:** Used Supabase Auth, PostgreSQL, Storage and Edge Functions with organisation-scoped roles, granular permissions and Row Level Security.
- **Integration:** Connected Xibo CMS through an authenticated Edge Function proxy plus imports, synchronisation and automatic display refresh.
- **Quality and deployment:** Used type checks, Vitest and controlled Netlify/Supabase deployments with separate staging and production paths.

Technologies: React 18, TypeScript, Vite, Tailwind, shadcn/ui, Supabase Auth/PostgreSQL/Storage/Edge Functions, RLS, Xibo API, HTML/CSS/JavaScript template engine, Vitest, Netlify

Project Engagement: AI-Assisted Support and Knowledge Platform

Architecture and integration

RAG-Based AI Commerce and Support Platform

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Modular AI chatbot platform for product guidance, support and knowledge access across e-commerce systems.

- **AI backend:** Built a RAG pipeline with FastAPI, OpenAI, Qdrant and SQLAlchemy/PostgreSQL, SSE streaming, feedback and ticket workflows.
- **Integrations:** Created platform adapters and plugins for PrestaShop, WordPress/WooCommerce and generic websites using a shared JSON protocol.
- **Experience and quality:** Delivered a voice-enabled web widget, admin analytics and knowledge configuration with Docker test environments and Playwright/security evaluations.

Technologies: Python, FastAPI, OpenAI, Qdrant, RAG, SQLAlchemy, PostgreSQL, SSE, Voice/STT/TTS, TypeScript, React/Vue, PHP, PrestaShop, WordPress/WooCommerce, Docker, Playwright

Project Engagement: Realtime Communications Platform

Full-stack architecture and delivery

SaaS and Mobile Platform

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Web and mobile platform with realtime communication, social/messaging workflows, subscriptions and containerised operations.

- **Platform:** Combined a .NET/Entity Framework backend, React web client and React Native/Expo application with shared contracts and production-like environment profiles.
- **Realtime and data:** Used PostgreSQL/Supabase with RLS, Realtime channels and SignalR-oriented workflows for messages, notifications and status changes.
- **Payments and operations:** Implemented Stripe subscription flows, background workers, Docker Compose stacks, nginx and Playwright end-to-end checks.

Technologies: C#/NET, Entity Framework Core, PostgreSQL, Supabase Realtime/RLS, React, TypeScript, React Native, Expo, SignalR, Stripe, Docker Compose, nginx, Playwright

Project Engagement: Cerebritos

Product architecture and implementation

AI Story Studio and Subscription Platform

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Multilingual consumer platform for creating, editing and publishing AI-assisted stories and media.

- **AI studio:** Delivered story, character, image, audio and video workflows with editorial control, persistent drafts and a server-side rendering pipeline.
- **SaaS and security:** Used Supabase/PostgreSQL with RLS, Storage, roles, privacy/retention controls and idempotent Stripe webhooks and entitlements.
- **Integration and operations:** Added MCP connectivity for AI clients, a Netlify frontend and containerised Fly.io rendering worker with automated tests and migration controls.

Technologies: Astro, React, TypeScript, Supabase/PostgreSQL, RLS, Storage, Edge Functions, LLM/image/TTS APIs, MCP, Stripe, Playwright, Docker, Fly.io, Netlify

Software Engineering Team Lead

10/2019 - 12/2021

Hoermann KG Antriebstechnik | Embedded Systems

People and technical leadership of a twelve-person software team working on embedded systems and device-level development.

- **Leadership:** Managed 12 employees, including work allocation, goal setting, feedback and technical development.
- **Embedded engineering:** Contributed hands-on engineering and technical decision support for C++-based embedded and device-level software.
- **Test automation:** Expanded automated tests and repeatable test workflows, increasing testing efficiency by more than 60%.
- **Quality process:** Turned isolated quality initiatives into a standardised engineering and testing process used across the team.
- **Delivery:** Aligned engineering scope, hardware/software dependencies, quality targets and delivery dates between the team and stakeholders.

Technologies: C++, embedded systems, device-level software, automated testing, CI/CD, Git, hardware/software integration, technical team leadership

Embedded Software Developer

05/2018 - 09/2019

Hoermann KG Antriebstechnik | Embedded Systems

Developed device-level real-time software and proprietary communication solutions in C/C++ for networked drive systems.

- **Embedded architecture:** Built a maintainable C/C++ software architecture for resource-constrained embedded systems.
- **RTOS:** Developed real-time software on the embOS real-time operating system with deterministic execution and hardware-level integration.
- **Communication protocols:** Designed and implemented the proprietary HCP2 communication protocol for reliable device communication across the network.
- **Patented solution:** Invented a patented method for preventing initial communication collisions in a device network.
- **Hardware interfaces:** Integrated and debugged device-level serial interfaces and bus protocols including I²C (I2C) and SPI.

Technologies: C, C++, embedded systems, embOS RTOS, HCP2, communication protocols, I²C/I2C, SPI, serial interfaces, device-level development, debugging