Daniel Kirchner

Freelance Software Architect for Cloud Platforms & AI Systems

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Profile

As a freelance software architect, I help companies successfully deliver complex cloud and AI initiatives. With more than 16 years of experience in full-stack development, DevOps, and technical project leadership, I bridge the gap between strategy and implementation: I design scalable architectures, migrate legacy systems to Kubernetes, and build AI-powered solutions (RAG, LangChain, MCP servers). In my previous permanent positions, I led projects for the public sector, healthcare, and mobility as a tech lead - experience I now bring to your team as an external architect.

Work Experience

Freelance Software Architect

since 05/2026

Self-employed

Consulting and implementation in cloud architecture, Kubernetes migration, AI engineering, and technical design for mid-sized and enterprise clients.

Lead Developer / Tech Lead

06/2021 - 04/2026

IAMDS GmbH, 94036 Passau, Germany (permanent)

Overall technical responsibility for client projects in the public sector, healthcare, and public transport. Architecture decisions, code reviews, team mentoring, and ownership of the DevOps strategy.

Software Engineer / DevOps Engineer

07/2012 - 05/2021

jb-x business solutions, 94032 Passau, Germany (permanent)

Full-stack development and build-up of CI/CD infrastructure. Gradually took over architecture and infrastructure responsibility for the company's own procurement platform.

Support / Development / Administration

08/2010 - 06/2012

Step Ahead AG, 82110 Germering, Germany (permanent)

Technical support, customization development, and system administration for ERP systems.

Selected Projects

AI-Powered Audit Assistant - Certification & Compliance (Austria)

since 2026

Role: Freelance AI Engineer / Software Architect (self-employed)

Goal: Relieve auditors conducting ISO certification audits: the required expertise is scattered across standards documents, spreadsheets, and the minds of experts, and converting raw audit notes into structured findings consumes significant manual effort.

Implementation: Co-developed an AI-powered audit assistant that supports auditors throughout the entire certification process. Specialized AI agents (LangGraph), grounded in the relevant standards via RAG, provide real-time guidance, reformulate findings into regulation-compliant language, and turn raw notes into structured audit documents. Auditors manage preferences, active standards, and findings through an interactive AI workspace.

Outcome: An assistant in productive use that turns hours of manual documentation into a streamlined, AI-assisted workflow.

Python | LangGraph | LangChain | FastAPI | Azure OpenAI | PostgreSQL / pgvector | Next.js

AI Workspace for Food Scientists (USA)

since 2026

Role: Freelance AI Engineer / Software Architect (self-employed)

Goal: Accelerate recipe formulation in the food industry: finding ingredients that meet nutritional, functional, and regulatory requirements is slow and manual - critical knowledge is scattered across spreadsheets, disconnected systems, and individual experts.

Implementation: Built an AI-first workspace where food scientists collaborate with a network of specialized AI agents to formulate and refine recipes in real time. Ingredient matching, supplier discovery, and regulatory validation each run as dedicated agents, coordinated through a shared intelligence layer of nutritional databases, marketplace data, and knowledge graphs. Scientists interact through a live recipe canvas.

Outcome: A significantly shorter path from idea to approved recipe through iterative, AI-assisted formulation and validation.

Python | LangGraph | LangChain | FastAPI | OpenAI API | Knowledge Graphs

AI Chatbot & MCP Server - Wikisana 2025-2026

Role: Tech Lead & AI Architect (permanent, IAMDS GmbH)

Goal: Provide users of a German-language health platform with an intelligent, well-grounded chatbot that answers questions based on the platform's own content.
Implementation: Designed and implemented a RAG pipeline (retrieval-augmented generation) with LangChain, Milvus as the vector database, and an MCP server for tool integration. The chatbot "Dr. Sana" answers user questions in context, based on video and PDF content.
Outcome: A production AI chatbot with high answer quality that measurably increased user engagement on the platform.

Python | LangChain | OpenAI GPT-4o | Milvus | FastAPI | Docker | MCP

Government & Public Administration - Electronic Legal Communication 2023

Role: Software Architect & DevOps Lead (permanent, IAMDS GmbH)

Goal: Migrate a nationwide electronic legal communication (ERV) application from a monolithic Oracle WebLogic architecture to a modern, containerized platform.
Implementation: Ported the system from J2EE to Quarkus, built a Kubernetes infrastructure (Rancher) with a service mesh (Istio), Terraform-based infrastructure, and integrated code and security checks (SonarQube, Nexus IQ).
Outcome: Successful migration with zero downtime. Significantly shorter deployment cycles and improved security compliance for critical government infrastructure.

Kubernetes | Rancher | Java | Quarkus | Istio | Terraform

Digitalization of Public Transport 2022

Role: DevOps Architect & Tech Lead (permanent, IAMDS GmbH)

Goal: Replace a fragile Docker Swarm infrastructure with a scalable, reproducible Kubernetes platform for the public transport sector.
Implementation: Migrated all services to managed Kubernetes (OVHcloud), infrastructure as code with Terraform, created Helm charts, and automated the migration of all customer-specific installations.
Outcome: Fully automated deployments, reduced operational overhead, and a scalable multi-tenant architecture serving more than 20 customer instances.

Kubernetes | Terraform | HELM | Java | OVHCloud | GitLab CI/CD

Data Platform

2022 - 2024

Role: Lead Developer & Architect (permanent, IAMDS GmbH)

Goal: Create a flexible, cloud-based platform that consolidates heterogeneous data-driven use cases (ML, reporting, event processing) on a unified infrastructure.
Implementation: Designed and developed a microservice architecture with Kotlin/Spring, a Vue.js frontend, Kafka for event streaming, and TimescaleDB. Elastic scaling on Kubernetes with centralized data governance and security.
Outcome: A production platform serving multiple business units that substantially reduced time-to-insight for data-driven projects.

Kotlin | Spring | Vue.js | Kafka | TimescaleDB | Kubernetes

Healthcare - Pandemic Response

2021 - 2022

Role: Tech Lead & Full-Stack Architect (permanent, IAMDS GmbH)

Goal: Deliver, under intense time pressure, an end-to-end platform for digitalizing pandemic response - from a mobile app to government agency interfaces.
Implementation: Architected and developed a multi-channel solution (mobile app, web client, AI diagnostics) on Azure with connections to health system interfaces (DEMIS, SORMAS, CWA).
Outcome: Successful go-live within 3 months. The platform was used in production at vaccination and testing centers as well as public health offices.

Node.js | React Native | MongoDB | Azure | Python

Education

Bachelor of Science - Business Informatics

10/2018 - 03/2023

Deggendorf Institute of Technology (Technische Hochschule Deggendorf)

Focus on Data Science (part-time, alongside work)

IT Management Assistant (Informatikkaufmann)

09/2007 - 02/2010

EDV-Schulen des Landkreises Deggendorf (vocational IT school)

Technologies & Skills

AI / ML Engineering

Python, LangGraph, LangChain, multi-agent systems, RAG, MCP, OpenAI / Azure OpenAI, pgvector, Milvus, Langfuse (LLM observability), RAGAS (evaluation), prompt engineering

Backend Development

Python (FastAPI, Pydantic, SQLAlchemy), Java, Spring Boot, Quarkus, Kotlin, TypeScript, Node.js, NestJS, Hibernate

Frontend Development

React, Next.js, TypeScript, Tailwind CSS, shadcn/ui (Radix UI), Vue.js, Angular, React Native, Electron

Databases & Storage

PostgreSQL (incl. pgvector), MongoDB, MySQL/MariaDB, Redis, TimescaleDB, Milvus, Azure Cosmos DB, S3 / Azure Blob Storage

Infrastructure & DevOps

Kubernetes, Docker, Terraform, CI/CD (GitHub Actions, GitLab CI/CD, Azure Pipelines), Azure, AWS, Istio, Flux CD, Microservices

Data & Analytics

Kafka, MQTT, R, Python, Elasticsearch, Grafana, Prometheus

Testing & QA

pytest, Playwright, Jest, JUnit, Mockito, Testcontainers, SonarQube, mypy / ruff, test-driven development

Security

OpenID Connect, OAuth2, Keycloak, JWT, Azure Entra ID, FusionAuth

Languages

German	Native
English	B1

Last updated: 14 July 2026