

CURRICULUM VITAE

Dr.-Ing.

Thomas Krause

SOFTWARE ARCHITECT / LEAD DEVELOPER

CONTACT

- contact@akzente.it
- +49 178 1986886
- akzente.it
- 50679 Cologne, Germany
- Born 1986

FOCUS AREAS

Software architecture
System design and integration

Cloud engineering
.NET applications and Azure platforms

Applied AI
LLMs, AI agents and Microsoft Foundry

CERTIFICATIONS

iSAQB
Certified Professional for Software Architecture, Foundation Level (CPSA-F)

Microsoft Certified
Azure AI Apps and Agents Developer Associate

Azure Data Scientist Associate

MCSD · MCSA

AWS
Certified Cloud Practitioner

Kubernetes
Cloud Native Associate (KCNA)

FinOps
Certified Practitioner

Profile

I turn complex requirements into software designs and work with development teams to implement them. My focus is on .NET backends, cloud architecture and applied AI.

PROFESSIONAL EXPERIENCE

Since 09/2005

Owner and freelance software architect
Senior Consultant · Lead Developer

Clients in energy, laboratory diagnostics, traffic monitoring and ERP.

SELECTED PROJECTS

SINCE 01/2019

Cloud-native online sales platform

Lead Developer in a Scrum team building an Azure-based platform for one of Germany's largest energy providers.
Shape the architecture from the outset and continue development.

- Apply CQRS and Clean Architecture, integrate CMS and business systems and coordinate architectural decisions with enterprise architects.
- Develop and operate Azure services with CI/CD, layered caching and monitoring. Support high availability, performance and secure releases.
- Use GitHub Copilot and Claude Code for implementation, tests and documentation. Work on parallel tasks in separate Git worktrees and review the results.

C# · ASP.NET Core · Azure · CQRS · Clean Architecture · Azure DevOps

SINCE 09/2024

GenDAI / AI-assisted microbiome diagnostics

Lead platform architecture and a work package in the EU research project GenDAI. Define diagnostic workflows with laboratory and research partners, including requirements for reproducibility, IVDR and GDPR.

LLMs · Workflow automation · Event-Driven Architecture (EDA)

Technologies & Engagement

TECHNOLOGIES

Backend and architecture

C# · .NET · ASP.NET Core
REST · Microservices · CQRS
Clean Architecture · DDD
Event-Driven Architecture

Cloud and operations

Azure · API Management
App Service · Bicep · Redis
Infrastructure as Code (IaC)
Docker · Kubernetes · FinOps
AWS

Applied AI

LLMs · AI agents
Microsoft Foundry · OpenAI API
LangChain · deepagents
Azure Document Intelligence

Data and identity

SQL Server · Entity Framework
Entra ID · OAuth 2.0 · OIDC
Managed Identities · Key Vault

DevOps and quality

Azure DevOps · Git · CI/CD
MSTest · Playwright · Vitest
Application Insights
OpenTelemetry · OpenAPI

Documentation and tools

arc42 · UML · Mermaid
Claude Code · GitHub Copilot
Codex CLI · Visual Studio

ENGAGEMENT

DevCouch

Co-founder of a German software development podcast

devcouch.de

LANGUAGES

German
Native

English and Spanish
Fluent, written and spoken

Project Experience and Qualifications

FURTHER PROJECTS

06/2023 TO 06/2025

GenomicInsights / Event-Driven Architecture

Designed an event-driven architecture for automated analyses and LLM-assisted reporting. Defined reproducibility and expert review requirements with laboratory partners.

05/2021 TO 02/2024

Automated qPCR analysis

Lead Developer for requirements and design of qPCR data analysis and reporting in collaboration with medical laboratories.

07/2016 TO 12/2018

Customer self-service portal

Built CQRS services for the self-service portal of the same German energy provider. Integrated SAP and other business systems and supported Azure operations, monitoring and performance as part of a Scrum team.

04/2016 TO 06/2016

Laboratory information system

Developed features and REST APIs for an international laboratory testing group, supporting lab workflows. Helped resolve defects before release and provided technical coordination for an offshore team.

06/2012 TO 03/2016

Traffic monitoring software

Built database-backed .NET applications and relational data models for an international supplier of traffic enforcement systems. Worked directly with clients abroad. The software handled millions of incidents a year.

EDUCATION AND RESEARCH

2019 TO 2025

Doctor of Engineering (Dr.-Ing.)

AI and big data for genomic diagnostics
FernUniversität in Hagen · With distinction

2013 TO 2016

M.Sc. in Practical Computer Science

Thesis on neural networks for document classification
FernUniversität in Hagen · Grade 1.2

2006 TO 2012

Diplom-Informatiker (FH)

Thesis on duplicate detection in large databases
Cologne University of Applied Sciences · Grade 1.3