

NASR KASRIN (DR. RER. NAT.)



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Technical leader and builder · Writing about software engineering in the age of AI

15 years where systems, products, and teams intersect — from enterprise platforms to EU research consortia to building production software with AI agents. I work at the boundary between “what should we build” and “does it actually run,” and I write about what I learn along the way. Architecture, leadership, and hands-on building — usually at least two of those at once.

Work Experience

Independent — Engineering Leadership & AI Adoption Advisory

2025 – Present

Self-employed — Bavaria, Germany

AI-Assisted Engineering — Methodology & Advisory

- Designed a methodology for AI-assisted software development: architecture conventions that make AI agents effective (vertical slices, machine-checkable contracts, scoped context), quality gates that catch AI-generated drift, and a human-architect role that maintains system coherence.
- Validated the methodology end-to-end by co-founding and solo-building Pflege-helfer (care documentation app, TypeScript/React/Supabase) from architecture through deployment in 6 weeks. Live product with real users.
- Advising on AI adoption strategy for engineering teams: assessing readiness, designing conventions, piloting with real workflows.

Solution Architecture & Technical Advisory

- Advised Lomisoft (early-stage healthcare SaaS) on solution architecture and AI integration strategy; designed a modular architecture that lets prototypes evolve into production.
- Ran pilot-user focus groups and fed findings back into technical design.

Lead Solution Architect

2024 – 2025

PUMA SE - Global E-commerce Engineering

- Led two engineering teams (10 engineers, 2 leads); ran onboarding and coaching that improved velocity and retention.
- Cut 30% of critical tech debt via a structured effort–value program (CI/CD stabilization, automated testing, reliability), producing a multi-quarter roadmap adopted across teams.
- Guided a cross-team optimization initiative that improved [PUMA.com](https://www.puma.com) performance by 20% in two quarters.
- Resolved a 90%-order-loss production outage within 24h; established post-mortem and incident practices that cut MTTR by 40%.
- Partnered with product, design, and business stakeholders to shape the technical solution architecture roadmap under growing global traffic.
- Piloted AI/LLM tooling for engineering productivity and code-quality gains; evaluated integration patterns for AI-assisted development across the engineering organization.

Founder-in-Exploration / Doctoral Researcher

2022 – 2023

Independent - Germany

- Completed PhD (Dr. rer. nat., Bamberg) on federated inter-organizational data architecture — systems that share and govern data across organizational boundaries without integration. The problem space now addressed by Catena-X and the EU Data Act.
- Co-founded an early-stage B2B healthtech venture; owned team setup, product roadmap, and technical strategy.
- Ran market assessment and feasibility studies; produced go-to-market scenarios for commercializing the research IP.

Research Associate - Team Lead, Architect, Data Solutions Engineer

2015 – 2021

University of Bamberg - EU Aerospace & Manufacturing Consortium Project (€3.5M, Horizon2020)

- Designed and built an inter-organizational data-sharing system for high-value composites manufacturing - exchanging simulation, test, and measurement data across 8 partners in 5 countries with different tools, conventions, and confidentiality scopes; contributed hands-on to 4 of 6 components.
- Directed delivery of the €3.5M consortium project; owned roadmap, budget, and milestones across multiple European partners.
- Led a cross-functional team of 4 engineers and researchers; ran hiring, onboarding, and mentoring.
- Established team-wide standards for architecture, scalability, security, and reliability.
- Field-tested the federated data-sharing model across three domains (manufacturing, IoT/agriculture, crowd data) - the basis of the later PhD.

Dean / Lecturer

2013 - 2015

University of Technology Twintech, Yemen

- Led the IT and Multimedia faculties, reporting to the university president. Taught several technology courses.

R&D Engineer / Team Lead - AI & Mobile

2011 – 2014

TayaIT - Egypt

- Led a 3-engineer team; delivered AI players that lifted game ratings from 3.0 → 4.5/5.
- Directed iOS app development; achieved 10x early-stage user engagement growth.
- Advised CEO on technical and operational decisions; saved an estimated 10 person-months.

Skills

Architecture & Product	Solution architecture · System design · API design · Product thinking · Technical roadmapping · AI/ML system integration
AI-Era Engineering Leadership	AI adoption strategy for engineering teams · Methodology design for human-AI collaborative development · Architecture conventions for AI-native codebases · Quality and compliance in AI-augmented workflows · Engineering process redesign
Engineering	TypeScript · React · Python · PostgreSQL · Node.js · REST APIs · Supabase · CI/CD · Reliability engineering · Incident response · Agile delivery
Data	Federated data architecture · Metadata · Data governance · Domain modeling · Interoperability standards (ODCS, DCAT, Catena-X)
Leadership	Hiring · Coaching · Cross-functional alignment · Stakeholder management
Languages	English (fluent) · German (B1/B2)

Education

University of Bamberg - Dr. rer. nat., 2023

Faculty of Information Systems and Applied Computer Sciences. Dissertation: *The Basin Network - A Model for Data Sharing and Exchange*.

German University in Cairo

M.Sc., Artificial Intelligence & Robotics B.Sc., Computer Science & Engineering