

Nasr Kasrin (PhD)

SOLUTION ARCHITECT · TECH LEADER

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Dynamic architect and technology leader with a history of guiding successful projects spanning diverse domains (data architecture, social networks, mobile apps, games, robotics, and AI), team sizes (2 to 10), and settings (from agile B2C environments to R&D projects backed by millions of Euros in public funding). With expertise at the intersection of engineering and product leadership, I excel in delivering cutting-edge solutions that drive business growth and enhance user experiences (See n42r.github.io for more).

Strengths: Thinking (Strategic, Critical, Creative), Emotion (Enthusiastic, Resilient), Execution (Initiative, Decisive), Relation (Empathy, Collaborate)

Work Experience

Solution Architect | Software Engineer | Data Integration | Interoperability Researcher

2021 - present

FREELANCE

Bamberg, Germany

- Crafting a prototype (mobile and web) for a customizable AI/LLM food recipe service with millions of potential users for a startup venture.
- Designing and implementing an AI/LLM music discovery prototype utilizing open-source LLMs, with positive feedback from pilot users.
- Developing a next generation (post-SaaS) data integration and interoperability technology for publishing and exchanging data assets.

Research Associate (Lead Data Solutions Engineer | Software Architect | Project Manager)

2015 - 2020

UNIVERSITY OF BAMBERG (EU-FUNDED MANUFACTURING PROJECT)

Bamberg, Germany

- Led a 4-year agile project to develop a data management SaaS platform for a €3.5 million 8-company EU manufacturing project, optimizing data discovery, collaboration, and turnaround time, and resulting in enhanced operational efficiency (See github.com/simutool for more).
- Cultivated close relationships with 10+ external partners, facilitating deep domain understanding and precise requirements identification.
- Engineered a read-heavy, horizontally scalable SaaS, ensuring seamless operations and future-proof architecture (ex., stateless nodes).

Team Lead | Product Manager | Software Solution Architect | R&D Engineer

2011 - 2014

TAYAIT

Cairo, Egypt

- Directed agile teams (2-5 members) in the development of two enduring social media/mobile products, driving perpetual augmentation of app rankings (4.5 stars) and a 10-fold increase in user engagement (See 'Greetings Studio' and 'Tawla' in Projects).
- Reduced feedback-development cycle times by 25% by coordinating cross-functional collaboration between technical, business, and UI/UX teams, streamlining workflows and fostering tighter cooperation and heightened productivity.
- Saved the company 10-man months by investigating emerging trends and alternative paths and advising the CEO in fruitful directions.

Projects (Titles are hyperlinks)

[Guestrrday & Muze AI](#)

2022 - 2024

- Developed personal open source projects: a music tagging tool (executed 20.000+ inputs) & an early AI-powered music discovery prototype.

[The Basin Network \(Doctoral Project\)](#)

2019 - 2023

- Invented a novel architectural pattern for data cataloging, improving on data mesh, data lake, and data space models in 3 respects: precision, level of detail, and generalization, culminating in the award of a PhD with distinction and 2 published papers.

[SIMUTOOL Data Lake](#)

2015 - 2019

- Led the development of data management SaaS for a consortium, cutting turnover time by 30% by fostering data-driven cooperation.
- Designed the app, built the back-end, and led client development, crucial to project success as acknowledged by an EC-appointed panel.

[Greetings Studio & Tawla \(Backgammon Board Game\)](#)

2011 - 2014

- Directed the development of an E-greeting card social network and mobile app, optimizing user engagement leading to 10-fold growth in users.
- Elevated app ratings of a mobile game from 3 to 4.5/5 stars by the implementation of advanced AI players, enhancing gameplay dynamics.

Education

PhD. (Dr. rer. nat.)	Faculty of Information Systems & Applied Computer Science, Otto-Friedrich-Universität Bamberg, Germany	2023
Masters of Science	Faculty of Computer Science & Engineering, German University in Cairo, Egypt	2010
Bachelors of Science	Faculty of Computer Science & Engineering, German University in Cairo, Egypt	2009

Skills

DEVELOPMENT	Python, Flask, WSGI, Apache, Docker, Linux CLI, git, and low-/no-code. Formerly, C++, Lisp, Java.
DATABASES	MongoDB, Neo4j, MySQL, Google Firebase Cloud, and Resource Description Framework (RDF) / Semantic Data.
LEADERSHIP	Empathetic leadership and coaching by example, agile/lean, change management.
ARCHITECTURE	Distributed architectures, modular monoliths (clean/hexagonal architecture), HTTP API interface design.
DOMAIN EXPERTISE	Data integration, governance, interoperability, standardization, cataloguing, domain modeling, robotics, AI.

Publications

2021	Data-Sharing Markets for Integrating IoT Data Processing Functionalities. <i>CCF Transactions on Pervasive Computing & Interaction</i>
2018	Semantic Data Management for Experimental Manufacturing Technologies. <i>Datenbank-Spektrum</i>
2010	Focused Belief Revision as a Model of Fallible Relevance-Sensitive Perception. <i>Künstliche Intelligenz</i>
2010	High-Level Perception as Focused Belief Revision. <i>European Conference on AI (ECAI)</i>

Languages

English: Fluent | German: B1 (Telc Certified)