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 | Co-Founder | CTO | (Meta)Data Integration Researcher   *2021 - present*

FREELANCE   *Bamberg, Germany*

- Co-founding a startup for AI/LLM-driven solutions & building prototypes for products (apps, websites) with millions of potential users.
- Designing and implementing a music recommendation concept utilizing open-source LLMs, with positive feedback from pilot users.
- Developing a next generation (meta)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 SaaS, ensuring seamless operations and future-proof cloud-native architecture (ex., docker, 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 starts) 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.
DOMAIN EXPERTISE	Metadata, Data integration, governance, interoperability, standardization, cataloguing, domain modeling, robotics, AI.

Publications

2023	The Basin Network: A Model for Data Sharing & Exchange. *PhD Thesis*
2021	Data-Sharing Markets for Integrating IoT Data Processing Functionalities. *CCF Transactions on Pervasive Computing & Interaction*
2018	Semantic Data Management for Experimental Manufacturing Technologies. *Datenbank-Spektrum*
2010	Focused Belief Revision as a Model of Fallible Relevance-Sensitive Perception. *Künstliche Intelligenz* (KI)
2010	High-Level Perception as Focused Belief Revision. *European Conference on Artificial Intelligence (ECAI)*

Languages

English: Fluent | **German**: B1 (Telc Certified)