

# Nasr Kasrin (PhD)

SOFTWARE ARCHITECT · PRODUCT STRATEGIST

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Dynamic software architect and product strategist with a history of guiding successful projects spanning various domains (including data architecture, social networks, mobile apps, games, robotics, and AI), team sizes ranging from 2 to 10 members, and diverse settings, from agile B2C environments to R&D projects backed by €3.5 million 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](https://n42r.github.io) for more).

## Work Experience

### Sr. Product Developer | Software Architect | Data Integration / Interoperability Engineer

2021 - present

ENTREPRENEUR / FREELANCE

Bamberg, Germany

- Developing an open-source data integration and interoperability technology for data asset publishing and exchange.
- Crafting a concept and solution for an AI/LLM-driven food recipe service via mobile and web platforms for a startup venture.
- Designing and implementing an AI/LLM music discovery prototype utilizing open-source large language models for a startup venture.

### 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 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](https://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 | Strategist

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)

### Muze AI

2023 - 2024

- Developed an early AI/LLM music discovery tool, bypassing the reliance on Spotify's music recommendation metadata.

### Guestrrday

2022 - 2023

- Engineered an open-source music tagging tool to enhance music organization, which has successfully processed over 20,000 inputs so far.

### The Basin Network (Doctoral Project)

2019 - 2023

- Invented a novel architectural pattern for data cataloging, improving on data mesh 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

- Built a data lake SaaS for a consortium of 8 manufacturing companies, 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

2012 - 2014

- Directed the development of an E-greeting card social network and mobile app, optimizing user engagement leading to 10-fold growth in users.
- Redesigned the architecture, leading to a 15% reduction in development time originally due to circumventing technical architecture debt.

### Tawla (Backgammon Board Game)

2011 - 2013

- Elevated app ratings from 3 to 4.5/5 stars by the implementation of advanced AI players, enhancing gameplay dynamics.
- Achieved a 10% increase in positive reviews due to building a sophisticated random number generator for the die, which improved gameplay.

# Skills

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DEVELOPMENT	Python, Flask, WSGI, Apache, Docker (multi-container), Linux CLI, git, and low-/no-code. Formerly, C++, Lisp, Java.
DATABASES	MongoDB, Neo4j, MySQL, Google Firebase, and Resource Description Framework (RDF) / Semantic Data.
LEADERSHIP	Empathetic leadership and coaching, agile/lean project leadership, 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.
SOFT SKILLS	Critical and conceptual thinking, collaboration/teamwork, clear communication of complex concepts.

# Education

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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

# Languages

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ENGLISH	Fluent
ARABIC	Fluent
GERMAN	B1 Telc Certified (Good Understanding, Basic Speaking)