Nasr **Kasrin (PhD)**

SOFTWARE ARCHiTECT · PRODUCT THiNKER

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# Summary

Software architect with a critical eye and open mind.

I led successful projects in various domains (data architecture, social networks, mobile apps & games, robotics & AI), team sizes (2‑10 persons), and settings (from innovative agile B2C settings to R&D projects with millions in public funding).



I shine on the intersection of engineering and product/people/cross‑functional leadership *(See* [*n42r.github.io*](https://n42r.github.io/) *for more)*

# Projects

**Muze AI** [*github.com/n42r/muze‑ai*](https://github.com/n42r/muze-ai)

OPEN SOURCE SOFTWARE *2023‑2024*

* Built and conceived an early AI/LLM music discovery tool that works without using use Spotify’s music recommendation metadata

**Guestrrday** [*github.com/n42r/guestrrday*](https://github.com/n42r/guestrrday)

OPEN SOURCE SOFTWARE *2022‑2023*

* Developed an open source music tagging tool that successfully processed over 20,000 items so far

**The Basin Network (Doctoral Project)** [*n42r.github.io/phd*](https://n42r.github.io/phd)

ARCHiTECTURAL MODEL *2019‑2023*

* Invented a novel architectural pattern for data cataloging more transparent and detailed than the state‑of‑the‑art (data mesh and data lake)
* Modeled the architecture for data exchange, interoperability, integration, and managing data as an asset
* Defended the project and was awarded a PhD with grade of *cum laude* (with praise)
* Published 2 papers in international conferences

**SIMUTOOL Data Lake** [*github.com/simutool*](https://github.com/simutool)

SAAS (EUROPEAN UNiON PUBLiCLY FUNDED PROJECT) *2015‑2019*

* Led a team of four to develop a data lake SaaS (Software as a Service) for a 8‑company EU project which enabled close data‑driven cooperation and coupling between participating companies
* Communicated & collaborated with domain experts to identify requirements
* Designed a scalable architecture as well as interfaces, APIs, and data formats
* Developed software and led developers using agile methods to build smoothly integrated components

**Greetings Studio** [*n42r.github.io/gs*](https://n42r.github.io/gs)

SOCiAL NETWORK/iOS MOBiLE APP (B2C) *2012‑2014*

* Supervised the development of a social network which enabled users to create E‑Cards and images and share them with others
* Trimmedturn‑overtimebetweenuserfeedbackandtechnical/productiterationsbyorganizinga10minuteweeklystand‑upbetweenmarketing and technical teams
* Scaled and improved the architecture of the SaaS for maintainability and performance

**Tawla (Backgammon)** [*n42r.github.io/tw*](https://n42r.github.io/tw)

GAME/iOS MOBiLE APP (B2C) *2011‑2013*

* Attained improved App ratings (from 3 to 4.5/5 stars) by building a new Artificial Intelligence (AI) players for the board game
* Conceived and implemented a complex random number generator for the dice algorithm leading the game to receive good reviews due to less predictable game flow

**ArtSapiens 2D Soccer** [*ssim.robocup.org*](https://ssim.robocup.org/)

AI/ROBOTiCS SOFTWARE TO COMPETE iN THE 2011 INTERNATiONAL ROBOCUP COMPETiTiON *2010‑2011*

* Co‑founded, co‑lead a team of 10 to develop software that qualified to compete in the 2011 International RoboCup Competition
* Headed the research and developement and built highly critical components such as the architecture and markov decision models

**Emp**

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**University of Bamberg (Third‑party Funded Project)**

*Bamberg, Germany*

RESEARCH ASSOCiATE (ARCHiTECT | TEAM LEAD)

*2015‑2020*

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Led a team to develop a data lake SaaS for a 3.5 million Euro EU manufacturing project, which led to improved data discovery, collaboration,

and turn‑over time

*See*

*(*

*github.com/simutoo*

[*l*](https://github.com/simutool)

*for more)*

•

Strengthened relationships with the 10+ end‑users (highly qualified professionals with PhDs) which led to better understanding of the domain

and their requirements

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Designed systems for ease of scalability, integration, and maintainability

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Organized the project, planned iterations and milestones, and supervised developers with agile practices to drive continuous growth

**TayaIT**

*Cairo, Egypt*

TEAM LEADER | SOFTWARE ARCHiTECT | R&D ENGiNEER

*2011‑2014*

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Led agile technical teams ranging in size from 2‑4 on two long‑term social media / mobile products resulting in continuously increasing app

rankings and user base

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Strengthened cross‑functional collaboration between technical, business, and UI/UX leading to 30% shorter cycle times, closer cooperation,

and increased productivity

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Researched and incorporated various state‑of‑the‑art technologies into our stack such as Protege/semantic web

**Ski**

**lls**

**DATABASES**

MongoDB (NoSQL), Neo4j (Graph DB), SQL, Google Firebase (Cloud), Resource Description Framework (RDF)

**DEVELOPMENT**

Python, Docker (Multi‑container), Linux CLI, git, UML

**SOFT SKILLS**

Critical Thinking, Empathy, Cross‑functional Collaboration, Teamwork, Leadership, (Technical) Communication, Problem

Solving, Public Speaking, Intercultural Fluency

**HARD SKILLS**

System Design, Coaching, Product Development, Agile/Lean, Prototyping, Research, R&D, Metadata, Data Cataloging, Domain

Modeling, Knowledge Management, Change Management, Data Integration

**PAST SKILLS**

Lisp, C++, Java, PIC Microcontroller Programming (Embedded)

**Edu**

**cation**

**Otto‑Friedrich‑Universität Bamberg**

*Bamberg, Germany*

PHD. (DR. RER. NAT.), FACULTY OF INFORMATiON SYSTEMS & APPLiED COMPUTER SCiENCE

*2023*

**The German University in Cairo**

*Cairo, Egypt*

MSC. (MASTERS OF SCiENCE), FACULTY OF COMPUTER SCiENCE & ENGiNEERiNG

*2010*

**The German University in Cairo**

*Cairo, Egypt*

BSC. (BACHELORS OF SCiENCE), FACULTY OF COMPUTER SCiENCE & ENGiNEERiNG

*2008*

**Pub**

**lications**

**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*

**2010**

High‑Level Perception as Focused Belief Revision.

*European Conference on AI (ECAI)*

**Lan**

**guages**

**ENGLISH**

Fluent

**ARABIC**

Fluent

**GERMAN**

B1 Telc Certified (Good Understanding, Basic Speaking)