Nasr Kasrin (PhD)

Sᴏғᴛᴡᴀʀᴇ Aʀᴄʜɪᴛᴇᴄᴛ · Pʀᴏᴅᴜᴄᴛ Sᴛʀᴀᴛᴇɢɪsᴛ

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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 for more)*.

Projects

Muze AI   *2023 - 2024*

Oᴘᴇɴ Sᴏᴜʀᴄᴇ Sᴏғᴛᴡᴀʀᴇ   *github.com/n42r/muze-ai*

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

Guestrrday   *2022 - 2023*

Oᴘᴇɴ Sᴏᴜʀᴄᴇ Sᴏғᴛᴡᴀʀᴇ   *github.com/n42r/guestrrday*

- Engineered an open-source music tagging tool capable of processing over 20,000 items, enhancing music organization and accessibility.

The Basin Network (Doctoral Project)   *2019 - 2023*

Aʀᴄʜɪᴛᴇᴄᴛᴜʀᴀʟ Mᴏᴅᴇʟ   *n42r.github.io/phd*

- 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*

SᴀᴀS (Eᴜʀᴏᴘᴇᴀɴ Uɴɪᴏɴ Pᴜʙʟɪᴄʟʏ Fᴜɴᴅᴇᴅ Pʀᴏᴊᴇᴄᴛ)   *github.com/simutool*

- 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*

Sᴏᴄɪᴀʟ Nᴇᴛᴡᴏʀᴋ/ɪOS Mᴏʙɪʟᴇ Aᴘᴘ (B2C)   *n42r.github.io/gs*

- 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*

Gᴀᴍᴇ/ɪOS Mᴏʙɪʟᴇ Aᴘᴘ (B2C)   *n42r.github.io/tw*

- 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.

ArtSapiens 2D Soccer   *2010 - 2011*

AI/Rᴏʙᴏᴛɪᴄs sᴏғᴛᴡᴀʀᴇ ᴛᴏ ᴄᴏᴍᴘᴇᴛᴇ ɪɴ ᴛʜᴇ 2011 Iɴᴛᴇʀɴᴀᴛɪᴏɴᴀʟ RᴏʙᴏCᴜᴘ Cᴏᴍᴘᴇᴛɪᴛɪᴏɴ   *ssim.robocup.org*

- Co-founded and co-led a team of 10 that developed robotics/AI software which qualified to compete in the 2011 RoboCup Competition.

Skills

DEVELOPMENT	Python, Docker (multi-container), Linux CLI, git, and low-/no-code (bubble.io). Formerly, C++, Lisp, Java.
DATABASES	MongoDB, Neo4j, SQL, 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.

Work Experience

Research Associate (Architect | Team Lead)
University of Bamberg (Third-party Funded Project)

2015 - 2020
Bamberg, Germany

- Directed a 4-year 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 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 Leader | Software Architect | R&D Engineer
TayaIT

2011 - 2014
Cairo, Egypt

- Directed agile technical teams, ranging from 2 to 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 over 10-man months by investigating emerging technologies and alternative project paths and advising the CEO in adopting better paths or avoiding dead-ends and sub-optimum paths.

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*

Languages

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