

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 for more)

Projects

Muze AI

github.com/n42r/muze-ai

OPEN SOURCE SOFTWARE

2023 - 2024

- Built and conceived an early AI/LLM music discovery tool that works without using Spotify's music recommendation metadata

Guestrrday

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

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

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

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
- Trimmed turn-over time between user feedback and technical/product iterations by organizing a 10 minute weekly stand-up between marketing and technical teams
- Scaled and improved the architecture of the SaaS for maintainability and performance

Tawla (Backgammon)

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

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 development and built highly critical components such as the architecture and markov decision models

Work Experience

University of Bamberg (Third-party Funded Project)

Bamberg, Germany

RESEARCH ASSOCIATE (ARCHITECT | TEAM LEAD)

2015 - 2020

- 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/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
- Designed systems for ease of scalability, integration, and maintainability
- 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

- 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
- Strengthened cross-functional collaboration between technical, business, and UI/UX leading to 30% shorter cycle times, closer cooperation, and increased productivity
- Researched and incorporated various state-of-the-art technologies into our stack such as Protege/semantic web

Skills

DATABASES	MongoDB (NoSQL), Neo4j (Graph DB), SQL, Google Firebase (Cloud), Resource Description Framework (RDF)
DEVELOPMENT	Python, Docker (Multi-container), Linux CLI, git, UML
PAST SKILLS	Lisp, C++, Java, PIC Microcontroller Programming (Embedded)
SOFT SKILLS	Critical, Conceptual Thinking, Empathetic, Collaborative, Leader, Communicative, Problem Solving
HARD SKILLS	System Design, Coaching, Product Development, Agile/Lean, Prototyping, Research & Development, Change Management
OTHER	Data Integration, Data Cataloging, Domain Modeling, Public Speaking

Education

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

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