Nasr Kasrin (PhD)

nasr.kasrin@puma.com | n42r.github.io | nkasrin

With over 20 years of experience in technology innovation, I have led successful initiatives in AI, data architecture, e-commerce, robotics, and more across startups, global corporations, and large-scale R&D projects. Anchored by advanced academic credentials–including a recent PhD in data architecture and management–I blend hands-on expertise with a leadership style centered on exploration, experimentation, and strategic risk-taking. This diverse background enables me to drive business growth and deliver state-of-the-art solutions that elevate user experiences.

Experience

Lead Solutions Architect — *2024 - present*

PUMA SE, Global E-commerce Engineering — *Herzogenaurach, Germany*

- Founded and led an organization of two teams (4+4+2) which improved PUMA.com's performance by 25%.
- Established (+ composed charter) of Ecomm Technical Cats (ETC) organization with a Tech Design Board & innovation forum.
- Led a war-room-like workshop of 15 technical experts to solve a complex problem causing PUMA NA to loose 9/10 orders on product launches.
- Investigated AI/LLMs for supporting software development and devised a initial framework for embedding LLMs in SE.

Co-Founder | CTO | Data Architecture Scientist | Prototyper — *2021 - 2024*

Freelance — *Bamberg, Germany*

- Co-founding a startup for AI/LLM-driven solutions & building prototypes for products with millions of potential users (left when joining PUMA).
- Developed an AI-driven music recommendation prototype utilizing open-source LLMs, with positive feedback from pilot users (**MuzeAI**, below).
- Researched and invented a next-gen data architecture (post-data mesh) for exchanging data across organizations (& awarded a PhD for it).

Research Associate (Team Lead | Dev Lead | Architect | Data Solutions Engineer) — *2015 - 2020*

University of Bamberg (EU-Funded Manufacturing Project) — *Bamberg, Germany*

- Led a 4-year project to develop a data management SaaS platform which optimized operational efficiency by 30% in a €3.5 million 8-company EU aerospace manufacturing project *(See **github.com/simutool**)*.
- Engineered a read-heavy SaaS, ensuring seamless operations and future-proof cloud-native architecture (ex., docker, stateless nodes).

R&D Engineer (AI) | Team Lead | Software Architect — *2011 - 2014*

TayaIT — *Cairo, Egypt*

- Built 2 AI players (java, C) for a mobile board game (backgammon), and lead a team of two R&D engineers to port them to Objective-C.
- Led a software engineering team in building 2 iOS mobile apps, driving rankings to 4.5/5 and increasing user engagement by 10.
- Reduced feedback-development cycle times by 25% by coordinating cross-functional collaboration between technical, business, and UI/UX.
- 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 & MuzeAI — *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 an architectural pattern for data architecture (Cf. data mesh, data lake), culminating in a PhD and publication.

SIMUTOOL Data Lake — *2015 - 2019*

- Led the design & development of a data management SaaS for a consortium (aerospace, automotive), cutting turnover time by 30%.

Greetings Studio & Tawla (Backgammon Board Game) — *2011 - 2014*

- Directed two apps (iOS): an E-greeting card creation/sharing app and a mobile game, optimizing user engagement and Elevated app ratings.

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*

Cover Letter

I have been pursuing technology innovation for 20+ years, where I led countless successful initiatives spanning diverse domains (AI, data architecture, E-commerce, robotics, mobile apps, games) and settings (Start-up B2C environments, Global corporate headquarters, Multi-million EU publicly funded R&D projects and countless independent initiatives). Focusing **only** on AI and Data initiatives, highlights include (blue text are hyperlinks):

- I built **MuzeAI**, an open source LLM-powered music recommendation service prototype driven by a user's Spotify account which received promising reception from pilot users (it was an exploration for a possible start-up venture), **2023-24**.
- I invented **The Basin Network**, a data architectural pattern for data sharing and exchange (think next-generation data mesh). It was targeted at enabling machine learning teams share, remix and build on each others data within medium to large enterprises as well as across organizations. I was awarded a PhD for it and published two papers on the subject (it was also built with the intention to spin into to a deep-tech start-up), **2020-2023**.
- I led a **4 year initiative** (team of 5) in which we built a data management SaaS which optimized operational efficiency by 30% for a €3.5 million Euro EC-funded R&D project for a consortium of 8-companies in aerospace and manufacturing which included Airbus, **2015-19**.
- I led a team to build 2 AI players for a **iOS mobile board game** (backgammon) in a B2C start-up like organization, which resulted in increasing sales and average ratings from 3 to 4.5/5 on the App Store, I also built a complex random generator for the dice algorithm which greatly improved game playability and engagement, **2011-2013**.
- I co-founded and co-led a team of 10 to to build a AI software to play soccer to compete in the International RoboCup competition. I designed the most technically complex and critical component of the project, the ball passing algorithm, using markov chain modeling (a subject I had no prior experience in), and wrote the position paper which earned us a spot in the 2012 RoboCup finals qualification round, **2011-12**.
- I invented two frameworks to help make robots more intelligent: one was a influenced by the idea of **short-term memory in humans**, and the other solved a complex philosophical problem related to **robot perception and visual illusion**, and published my findings in top-tier AI conferences: ECAI & KI. Earned a masters degree with a grade of excellent in Computer Science and Engineering for it, **2009-2010**.
- I built a solution that integrated structured background knowledge into case-based reasoning, with use-cases in early breast cancer detection and heart attack diagnosis, and published a paper about it, earning a bachelors degree with a grade of excellent for it, **2008**
- Two projects I played a critical role in during my undergraduate years (building a robot car to navigate mazes and building a game in Java/Java 3D) won top university competition awards **2005-2007**.

In recent years, my interests and focus have moved to building highly innovative organizations. Since I joined PUMA I have initiated two high profile, high value organizations.

- I built a hierarchical organization concept made up of two teams (4+4 and 2 leads + 2 PMs), which resulted in a 20% improvement to the performance of PUMA.com (about 2 seconds), **AND** resulted in a 1 year roadmap (4 backlogs) of improvements which have become a major focus of the web development teams at PUMA Global eComm in 2025.
- I ideated, founded, and wrote the organizational charter for the eComm Tech Cats (ETC), a multi-

functional organizational unit included a Tech overview board, an innovation hub, a communication channel between world wide PUMA ecomm regions, and a platform for collaboration with PUMA Digital Techology departments, as well as PUMA global IT.

In my last year at PUMA, I founded and wrote the organizational charter for the Ecomm Tech Cats (ETC)

My leadership approach for staying ahead in technology is about exploration and experimentation: not iterations over the same concept (as in software engineering), but cycles exploring completely different solution directions until one hits a promising lead.

This approach is based on my view of the ”exponential law” in the modern tech industry, which was driven by my personal experiences as well as a study of the history of the tech industry post-2000+.

When it comes to building teams and organizations, I see it as an interplay between two forces: organizational culture and people. And building a high performance organization is always possible with the right balance of open mindedness, courage, experimentation, and trust. And I believe I have a healthy dose of these four.

My experiences at PUMA global Ecomm (from 2024 to present) have given me a good understanding of the company’s value chain along with its rich world-wide network of regions.

As Director AI and Machine Learning, I believe I have the experience and traits to deliver maximum growth and value to PUMA’s strategy in general and in helping realize the vision of the AI and Machine Learning division.

Sincerely,

Nasr Kasrin