

# Mustafa Abuefadi

♥ Freiburg | @ mustafa@zidan.me | 📞 +4915209121986 | 📺 mustafaabuefadi | 🌐 mustafa-zidan

## About

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Technical generalist; a scientist at heart and an engineer at work. Comfortable designing and implementing applications from whiteboard diagrams to production, I enjoy tackling massive-scale technical problems and have an itch to create something people want.

## Experience

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**Senior Software Engineer**, Sparetech GmbH - Remote Oct 2025 - Present

- Designed and implemented an agentic AI product research pipeline that autonomously enriches catalog data by orchestrating LLM-driven query planning, parallelized supplier search, and a validate-then-extract loop, reducing manual data entry effort and improving import quality at controlled cost via built-in time, query, and spend budgets.

**Staff Engineer**, DAMEDIC GmbH - Remote Oct 2019 - Sept 2025

- Designed a dynamic rule engine and ETL pipeline that transforms heterogeneous hospital data into billing-ready formats tailored to each hospital.
- Helped bootstrap a knowledge graph Service using Neo4j to model relationships between diagnoses, procedures, and billing rules, enhancing system context and suggestion quality.
- Orchestrated multi-stage data workflows with Apache Airflow, improving error recovery, reprocessing logic, and dependency management.
- Reduced manual billing time from 20–30 minutes to 5–10 minutes per case by introducing hybrid rule/ML-based suggestions.
- Defined and rolled out company-wide engineering standards, including secure development policies, GitLab CI/CD templates, and code review practices.
- Contributed to ISO 27001 and C5 certification efforts as part of the Security Council, focusing on secure development, disaster recovery, and business continuity planning.

**Senior Software Engineer**, TV Squared - Munich, Germany Jun 2018 - Oct 2019

- Developed a real-time spot detection system to monitor TV streams and identify ad segments by brand and timing.
- Built session analytics pipelines to track user activity and correlate ad viewership with web/app engagement.
- Optimized Redis and Golang-based services for high concurrency and performance in production workloads.
- Used Kafka and Apache Spark for large-scale event processing and attribution tracking.
- Collaborated within a team of 5 engineers and supported Go code-base quality through informal mentorship and pair programming.

**Senior Software Engineer**, Verve Group - Munich, Germany Oct 2015 - Jul 2018

- Developed a high-volume segmentation engine to classify mobile users based on behavioral patterns for personalized ad delivery.
- Handled 2.5M requests/min across a distributed architecture using Kafka, Aerospike, PostgreSQL, and Java.
- Collaborated with data science teams to enable dynamic segment evaluation and triggering mechanisms.
- Managed and provisioned infrastructure using Ansible over AWS.
- Built high-throughput ingestion APIs with Node.js and Express to collect user behavior data and queue it for downstream processing.
- Exposed segmentation results to advertisers via a dedicated API and Angular-based portal for targeting and analytics.

**CTO**, MENA Commerce - Cairo, Egypt

Jan 2015 - Dec 2015

- Led the development of a price comparison platform aggregating e-commerce products from multiple retailers via scraping and catalog normalization.
- Built the product prototype that contributed to securing \$1M in funding as part of the company's strategic growth.
- Managed a 10-engineer team, defined the architecture, and implemented core services using Python, Golang, and Angular.
- Designed search and recommendation layers with Elasticsearch and Redis to support product discovery.
- Oversaw technology selection, platform direction, and regular reporting to cofounders for investor updates.

**Senior Software Engineer**, OverC Studios - Cairo, Egypt

May 2014 - Dec 2014

- Developed and maintained various web applications
- Led architectural and development efforts for the Maki platform.
- Optimized code performance for improved user experience and system efficiency.
- Mentored junior developers, fostering professional growth and enhancing team productivity.
- Regularly reviewed peers' code contributions, offering constructive feedback to enhance overall product quality.

**Software Engineer**, Tamkeen Capital - Cairo, Egypt

May 2012 - Apr 2014

- Improve, integrate, and maintain a wide array of in-house and 3rd party Ruby gems for different business domains.
- Work on the architecture, design, and implementation of the core platform functionalities.
- Development of the funding engine on top of the Raneen platform.

**Software Engineer**, National Net Ventures - Cairo, Egypt

Jan 2010- Apr 2012

- Contributed to the development of the Mubasher.info portal.
- Implemented an integration layer to expose business services through unified, secure, and manageable push/pull channels.
- Documented architecture, system features, APIs, and integration guidelines.
- Analyzed J2EE portal performance, identified bottlenecks, and optimized them.

**Junior Software Engineer**, National Net Ventures - Cairo, Egypt

Mar 2008- Dec 2009

- Maintain legacy web applications.
- Built UIs using XHTML and CSS.
- Development of the Company's website.
- Created a modular two-way SMS API for easy integration of SMS functionality in projects.
- Enabled application integration through a robust XML-RPC API.
- Developed a custom JIRA plugin..
- Implemented and deployed an internal Human Resources Management System.

## Technologies

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**Languages:** Kotlin, Golang, Python, Java, Ruby, JavaScript

**Data & ML:** Apache Airflow, Apache Spark, Apache Kafka, PostgreSQL, Redis, Neo4j, Aerospike, Elasticsearch

**DevOps & Infra:** Docker, Kubernetes, Helm, Terraform, Ansible, GitLab CI/CD

**Frameworks & Tooling:** Quarkus, Fast API,

## Education

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University of Al-Mansoura- Egypt, B.Sc. in Computer Science

Sept 2003 – August 2007

- **GPA:** 2.1
- **Graduation Project:** Virtual classroom with ASR
- **Coursework:** Computer Architecture, File Structure, Algorithms, Computational Theory, Compiler, Artificial Intelligence Introduction.