

Michael Schöffel

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Passionate full-stack developer with a solid background in software development, IT management, and artificial intelligence. Currently advancing at AraCom IT Services GmbH, driving complex projects from conception to deployment and leading AI integration efforts. Experience ranges from developing large-scale software used by municipalities across Germany to modernizing ERP systems for international applications. With a Master's in IT Management and a Bachelor's in Computer Science, technical expertise is combined with a keen interest in AI research and development. Dedicated to fostering innovation through workshops and presentations while continuously expanding knowledge in software and AI technologies.

WORK EXPERIENCE

Junior & Professional Software Developer - AraCom IT Services GmbH JAN 2020 - PRESENT

In early 2020, I transitioned to AraCom IT Services GmbH, a larger software company, to expand my skill set and take on new challenges. Starting as a junior software developer, I quickly integrated into a full-stack development team. After completing my part-time bachelor's degree in May 2022, I was promoted to professional software developer, taking on increased responsibility in both software development and artificial intelligence, leading key projects and driving innovative solutions to complex technical challenges.

- **Redevelopment of a large-scale software:** Contributed to the conception, setup, development and extension of a legacy software redevelopment from start to first release. This software is used by more than 80% of the municipalities, towns and cities in Germany to manage all their bureaucratic processes ranging from citizen management to billing of individual fees. Worked with several international scrum teams, used a web-based approach and was implemented using Vaadin, Java EE, MSSQL and Oracle.
- **AI consultation:** Provided expert guidance to clients on integrating AI components into software solutions to address specific business challenges, ensuring effective implementation and optimization.
- **Research and development:** Conducted AI research and development, performed in-depth research on artificial intelligence, developed presentations on neural networks and text anonymity, and authored multiple technical articles to disseminate knowledge within the organization. [1-5]
- **AI training and development:** Designed, created and delivered AI workshops and training programs to junior staff, fostering a culture of innovation and enhancing technical proficiency within the company.
- **Mentorship:** Provided mentorship to new apprentices and junior developers, guiding their professional development and integration into the team.
- **Management:** Oversaw software development lifecycle processes, utilizing Agile methodologies and project management tools to ensure timely and successful project delivery.
- **Industry engagement:** Actively represented the company at conferences and industry events, building strong professional networks and staying updated on emerging trends to maintain competitive edge.

Trainee Application Development & Software Developer - se commerce GmbH SEP 2016 - DEZ 2019

I started my career in software development as an apprentice at se commerce GmbH, Gersthofen, in September 2016. In 2018, I expanded my skillset through a one-month exchange programme at Asseco Solutions. After demonstrating exceptional performance, I accelerated my professional trajectory by completing my apprenticeship in May 2019 and transitioning to the role of junior software developer.

- **Enhancement and extension of the existing web-based ERP system:** Extended and enhanced the seele Group's Java, C# and ASP.NET based ERP system with custom developments and ensure efficient operation in each country of operation.
- **Modernization of international applications:** Led the modernisation of internationally used seele Group applications by implementing web-based versions with Vaadin and Spring Boot, connecting them seamlessly to legacy systems.
- **CRM system development:** Designed and developed a CRM web system using Vaadin, integrating it with existing data from the ERP system.
- **ERP expertise:** Gained valuable experience and insights in customer management, support, and customized development within a largescale ERP system at Asseco Solutions.
- **Mentorship:** Provided guidance and leadership to new apprentices, fostering their professional development and ensuring they integrated smoothly into the team.

EDUCATION

Master of Science IT Management - Wilhelm Büchner University - GPA: 3.7 JUN 2022 - MAY 2024

- Specialized in IT security management, artificial intelligence, and software architecture.
- Master's thesis: „Possibility of Identifying People by Analyzing Text Using Various AI Language Models“ (GPA 4.0). [6]
- Successfully completed the program while working full-time as a software developer.

Bachelor of Science Computer Science - Wilhelm Büchner University - GPA 3.0 MAR 2019 - MAY 2022

- Specialized in IT security and artificial intelligence.
- Bachelor's thesis: „Visualization of Artificial Neural Networks using a Web-Based, Simplified Evolution Simulation“ (GPA 3.7). [7] Developed the „EvoSim“ application as part of thesis research. [8]
- Successfully completed the program while working full-time as a software developer.

Apprenticeship Application Development - Vocational School 7 Augsburg - GPA 3.7 SEP 2016 - FEB 2019

- Developed a strong foundation in software development, encompassing both technical and interpersonal skills.
- Exceeded expectations, leading to early completion with distinction of the program in 2019 (2.5 years).

SKILLS & EXPERIENCES

Software Development:	Version control systems, software design patterns, build automation, container orchestration, IT security, artificial intelligence.
Backend Development:	Java EE, Spring Framework (including Spring Boot), Hibernate ORM, Vaadin, Node.js, PHP, Web Services, WebSocket protocols.
Frontend Development:	HTML5, CSS3, JavaScript, TypeScript, React, Next.js, Vue.js, Nuxt.js, JSP, Thymeleaf.
Databases:	MySQL, MSSQL, Oracle, MongoDB, Redis, H2, SQLite, Firebase.
Organizational:	Agile methodologies (Scrum), project management, issue tracking, IT operations and management, software development lifecycle.
Education:	Self-directed learning, conference attendance, online course completion, extensive reading, algorithmic problem-solving (Competitive Programming).

PORTFOLIO

EvoSim:	Developed a full-stack web-based application to visualize the functioning of artificial intelligence and artificial neural networks using a simplified evolutionary simulation. The backend, developed using NestJS and TypeScript, concurrently executes three AI agent types (Random Permutation, Genetic Crossover, NEAT) within the simulated environment. A TypeScript-based frontend, utilizing Vue and various visualization libraries, dynamically renders the simulation data transmitted via WebSocket from the backend. [8]
Competitive Programming:	Developed high performance Go-based solutions for algorithmic challenges on competitive programming platforms such as LeetCode, Advent of Code and Google Code Jam. [9]
Private Blockchain:	Developed my own blockchain in Java to gain a deep understanding of the concept, underlying technologies and protocols. [10]
Design Pattern:	Collection of code implementations showcasing modern software design patterns in Java. [11]

TALKS & WORKSHOPS

Talk 2024	Presented a research-based talk to over 50 attendees at AraCom IT Services GmbH on text anonymity and author identification using Large Language Models (LLMs) such as BERT and DeBERTa. The presentation was based on my master's thesis, which compared the performance of LLMs with traditional law enforcement methods. It is planned that this talk will also be given at the Hackerkiste IT conference in Augsburg with an expected audience of over 500 participants. [2]
Talk 2022	Delivered a presentation on the fundamentals of artificial intelligence and artificial neural networks to an audience of over 50 people at AraCom IT Services GmbH. The presentation was based on research conducted for my bachelor's thesis and included insights from the developed application, EvoSim. [1]
Workshop 2024 (in creation)	Facilitated a two-day AI fundamentals workshop for approximately 20 trainees at AraCom IT Services GmbH. Workshop includes Python programming basics, AI introduction, PyTorch framework, usage of pre-trained AI models from Hugging Face and development, training, evaluation of custom AI models using PyTorch.

PUBLICATIONS

Master's thesis:	„Possibility of identifying people by analysing text using various AI language models“. [6]
Bachelor's thesis:	„Visualization of artificial neural networks using a simplified, web-based evolution simulation“. [7]
Blog posts:	Contributed to company knowledge base by authoring multiple blog posts on the fundamentals and mechanisms of artificial intelligence and neural networks. Independently maintained personal posts focused on software development, cybersecurity, and AI topics. [3-5]

HOBBIES

Running, Cooking, Programming, Photography, Light and Sound (technology/design)

SOURCES

- [1] - <https://mschoeffel.de/links/talk-basics-ai-ann>
- [2] - <https://mschoeffel.de/links/talk-anonymity-of-texts>
- [3] - <https://aracom.de/kuenstliche-intelligenz/>
- [4] - <https://aracom.de/kuenstliche-neuronale-netze/>
- [5] - (Will be published shortly)
- [6] - <https://mschoeffel.de/links/masterthesis>
- [7] - <https://mschoeffel.de/links/bachelorthesis>
- [8] - <https://github.com/mschoeffel/evosim> - <https://evosim.mschoeffel.net>
- [9] - <https://github.com/mschoeffel/CompetitiveProgramming>
- [10] - <https://github.com/mschoeffel/PrivateBlockchain>
- [11] - <https://github.com/mschoeffel/DesignPattern>