Moritz Dück, he/him/his   linkedin.com/in/moritzdueck | moritzdueck.com

Work Experience

Full Stack Software Developer, Simunto | Zurich, Switzerland | Sep 2021 – now
- o   Designed web-application for editing public transport and street networks with up to 10.000.000 links and developed it using Typescript, Vue.js, MapLibre GL and deck.gl.
- o   Created high-throughput data processing pipelines in Java and chart visualization toolkit in Angular for traffic simulation outputs with up to 200 GB of raw text files per simulation running on AWS.
- o   Managed a 3-month effort to extend a visual analytics system with real-time data filtering capabilities including UX design and implementation leading to new business opportunities by successful delivery.

Software Developer Consultant, ThoughtWorks | Berlin, Germany | Jan 2020 – Sep 2021
- o   Operated 8 Java microservices with 5 colleagues on Kubernetes cluster on AWS for applications in the payment domain processing up to 1000 requests per second.
- o   Refactored and improved reliability of shopping cart component to move from 0.99% availability SLO to 0.995 for highly distributed e-commerce platform in Scala (functional).
- o   Engaged in company community for improving Java skills, helping new starters through pair programming exercises on online coding platforms.

Education

ETH Zürich | M. Sc. Computer Science | Sep 2021 – Jul 2024
Major in Machine Intelligence, Minor in Data Management Systems

Otto-Friedrich University Bamberg | B. Sc. Applied Computer Science | Sep 2016 – Sep 2019
Graduation with distinction (GPA 4.0/4.0 – very good with distinction)
- o   Bachelor Thesis: An Automated Approach to Score Following with Polyphonic Acoustic Guitar Music
- o   Teaching Assistant: Advanced Java Programming, Introduction to Algorithms, Programming and Software. Held exercise sessions for 80+ students.

Projects

Interactive Explainable for CNNs | 2023
Created an interactive science publication. Developed three novel visualizations for CNN models and implemented custom visualizations using d3.js embedded within a Vue.js website. Additionally, designed and developed a Python Flask backend to enable real-time inference. Published to the IEEE VISxAI workshop.

Incremental learning for NLP annotations | 2023
Designed NLP system for AI-in-the-loop knowledge extraction from medical texts for medical professionals using incremental learning strategies on LLM embeddings.

Visual Analytics Framework | 2022
Developed a platform for visualizing machine learning model predictions, emphasizing model selection and bias detection. Successfully published the project in an IEEE Visualization Workshop.

Skills

Programming Languages	Java, Typescript/Javascript, Python, Scala, Haskell, Clojure, R, SQL
Frameworks / Tools	Angular, React, Vue, Redux, Cypress, D3.js, Reframe, Laravel, Spring Boot, Play, PyTorch, Spark, SciKit, Numpy, Git, Docker, PostgreSQL, MongoDB, Neo4J, Cassandra, deck.gl, Maplibre GL
Practices	Agile, TDD, CI/CD, Pair Programming, Non-violent Communication
Languages	German (native), English (proficient), French (basic)