Dr. Markus Hähnel

DevOps & Cloud Engineer | Python Developer

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Profile

With over 14 years of experience in software development, I specialize in cloud infrastructure, DevOps practices, and Python-based solutions.

Languages: German (native), English (fluent)

Professional Experience

My personal Website (10/2025 - 10/2025)

Full Stack Developer. A Django-based website to present my freelance work, projects, and technical skills. The application uses SQLite for data storage and is containerized with Docker for easy deployment.

Technologies: Python, Docker, SQL, Django

Cloud Landing Zone & Virtual Desktop Infrastructure | Stackmeister (04/2025 - 05/2025)

Cloud Engineer. Implementation of cloud infrastructure and virtual desktop solutions using Microsoft Azure.

Technologies: Terraform, Microsoft Azure, Azure DevOps

DevOps & CI/CD on GCP | deecoob GmbH (07/2023 - 03/2025)

DevOps Engineer. Implementation of DevOps practices and CI/CD pipelines on Google Cloud Platform. Deployed and managed Kubernetes clusters, implemented Infrastructure as Code with Terraform, orchestrated stream processing with Apache Kafka, and automated deployments using Helm Charts.

Technologies: Python, Google Cloud Platform (GCP), Kubernetes, Helm Charts, Terraform, CI/CD, Git, GitHub, Bitbucket, Apache Kafka, Stream Processing, Protobuf, gRPC

Compression of Sensor Data | flow.d GmbH (02/2023 - 06/2024)

Data Scientist. Development of data compression algorithms for sensor data using statistical analysis, time series analysis, and deep learning techniques.

Technologies: Python, NoSQL, Compression, Data Analysis, Time Series Analysis, Data Science, AI, Deep Learning

Migration to the GCP | deecoob GmbH (01/2023 - 03/2025)

Architekt. Survey of the system on premises, followed by the system architecture design and project leadership for the data platform in the Google Cloud Platform. Setup of the Cloud Landing Zone and common infrastructure such as databases, Kubernetes cluster, Apache Kafka, Schema Registry etc.

Technologies: Google Cloud Platform (GCP), Kubernetes, Terraform, Git, GitHub, Bitbucket, System Architecture, Cloud-Native Architecture, Project Management, SCRUM, JIRA, Confluence

Framework for Neural Network Classifiers | deecoob GmbH (11/2021 - 06/2023)

Software Developer. Design and implementation of a framework for neural network classifiers using Python, FastAPI, and deep learning frameworks.

Technologies: Python, NoSQL, Software Architecture, FastAPI, Data Science, AI, Deep Learning, Natural Language Processing (NLP), ML-Ops

System Architecture for AWS | deecoob GmbH (11/2021 - 12/2022)

Architect. Design and implementation of cloud system architecture on Amazon Web Services (AWS). Architected scalable cloud-native solutions with focus on reliability, security, and cost optimization.

Technologies: Amazon Web Services (AWS), System Architecture, Cloud-Native Architecture

Web-Crawler for Diagnostic Trouble Codes | FSD - Zentrale Stelle (07/2020 - 10/2021)

Data Engineer. Development of a web crawler for mining diagnostic trouble codes (DTCs) from various automotive data sources. Implementation included data extraction, parsing, and storage in relational databases.

Technologies: Python, SQL, PostgreSQL, Flask, Data Engineering, Web Crawling, Data Mining, XML

Migration to GitLab & Kubernetes | FSD - Zentrale Stelle (07/2020 - 10/2021)

DevOps Engineer. Migration of infrastructure and applications to GitLab and Kubernetes. Implemented CI/CD pipelines, containerized applications with Docker and Helm Charts, and orchestrated microservices using gRPC and Protocol Buffers.

Technologies: Python, Kubernetes, Helm Charts, CI/CD, Git, GitLab, Protobuf, gRPC

Lecturer for Linux | University of cooperative education Dresden (05/2019 - 07/2019)

Teaching Linux administration, Docker, and Git to students.

Technologies: Docker, Git, Linux

Development of a preprocessing library | flow.d GmbH (04/2019 - 09/2020)

Software Developer & Data Scientist. Development of a library for flexible preprocessing of time series data for the transportation type detection by an AI model.

Technologies: Python, Software Architecture, Data Analysis, Time Series Analysis, Data Science, AI

Structuring and Analysis of 24 Million Time Series | Dresden University of Technology (12/2015 - 06/2019)

PhD research on structuring and analyzing 24 million time series using machine learning algorithms, big data technologies, and statistical analysis. Involved software architecture, data center operations, and information visualization.

Technologies: Python, Databases, SQL, NoSQL, Software Architecture, Big Data, Data Analysis, Time Series Analysis, AI, Machine Learning, Virtualization

Development of Laboratory Software | Helmholtz-Zentrum Dresden-Rossendorf (HZDR) (06/2014 - 11/2015)

Software developer. Development of Python-based laboratory software with UI to control and run automated experiments.

Technologies: Python, UI

Lecturing Python | Technische Universität Dresden (10/2013 - 03/2014)

Teaching Python programming, statistical data analysis, and modeling & simulation to university students.

Technologies: Python, Data Analysis

Software developer. Development of Evaluation Software | Institute for Applied Photophysics (IAPP) - TU Dresden (10/2012 - 03/2013)

Development of Python-based evaluation software with UI and information visualization for analyzing experimental data at the Institute for Applied Photophysics.

Technologies: Python, UI

Administration of Network Infrastructure and Servers | Studentenwerk Dresden Wohnheim (10/2011 - 10/2015)

Netzwork administrator. Network and server administration for student housing, including database management, helpdesk support, and web development with PHP, Perl, and WordPress.

Technologies: Databases, SQL, Linux, Network Infrastructure

Certifications

Google Cloud Professional Architect • Professional Scrum Master I (PSM I) • Professional Scrum Product Owner I (PSPO I) • Quality Officer TÜV