

Jonathan Wrede

Website: jonathanwrede.de
Email : contact@jonathanwrede.de
Mobile : +49 151 - 29499386

ML and platform engineer building prediction algorithms, data pipelines, and cloud infrastructure for 100,000+ IoT devices.

EXPERIENCE

- **Vilisto** Hamburg, Germany
Machine Learning Engineer *Jan. 2025 – Present*
 - **Battery health & runtime prediction:** Designed capacity and runtime prediction algorithms with confidence intervals for 100,000+ IoT thermostats (~400 customers); reduced battery replacement costs by EUR 50–100K in year one. Pipeline with **Dagster** and **MLflow**.
 - **Company data platform (ELT):** Built the analytics warehouse: 95 **dbt** models ingesting 5 data sources with PII-safe pipelines, automated tests/lineage via **Dagster**, staged rollouts with ArgoCD.
 - **Fleet monitoring:** **Grafana** dashboards and **Python** alerting service for 100,000+ devices—replaced days of manual checks with automated detection of offline thermostats and gateway failures.
 - **Platform & tools:** Deployed and monitored data/ML services on **Kubernetes (Helm, probes, logs/metrics)**; shipped a **FastAPI** lab dashboard for battery test visualization with automated alerting.
- **Saracus** Muenster, Germany
Big Data Consultant *Jan. 2023 – Dec. 2024*
 - **Cloud data platforms:** Designed and deployed data warehouses for 5 enterprise clients in insurance, e-commerce, and energy on **Snowflake (AWS)**, **Google BigQuery**, and **Azure Synapse**; built automated **Python** ETL pipelines processing millions of records.
 - **Application development:** Built multiple **Streamlit** apps with OAuth SSO, Snowflake integration, and custom visualization; deployed via **Azure Container Apps**.
 - **Data governance:** Implemented a **Master Data Management** solution with **Ataccama + Azure**; automated glossary maintenance with **Azure Functions** and Python.
- **Vilisto** Hamburg, Germany
Working Student — Data Scientist *Sep. 2021 – Oct. 2022*
 - **ML & data engineering:** Extended presence-detection models with **Python/scikit-learn** for thousands of IoT thermostats; built schemas and pipelines in **PostgreSQL/TimescaleDB** with **SQL** and **pandas**.
 - **Software development:** Contributed to backend (**Python, Docker**) and frontend (**TypeScript, Vue.js**); built a **PyQt** labeling tool and led internal programming workshops.
- **TU Dortmund** Dortmund, Germany
Teaching Assistant — Data Structures & Algorithms *Feb. 2021 – Oct. 2021*

EDUCATION

- **University of Muenster** Muenster, Germany
• **Master Computer Science Focus AI / ML / Statistics** *Oct. 2023 – Oct. 2026*
Thesis: Optimizing memory footprints for secure neural network inference in transformers
- **TU Dortmund** Dortmund, Germany
• **Bachelor Computer Science with Minor Statistics** *Oct. 2019 – Apr. 2023*
Thesis: Phase transitions in sparse principal component analysis

PROJECTS

- **Anki Markdown Extension:** Open-source extension with 85+ GitHub stars and active users. Automated release pipeline with **GitHub Actions**. **Tech:** JavaScript, Python

TECHNICAL SKILLS

- **Infrastructure & Cloud:** Kubernetes (Helm, ArgoCD), Terraform, Docker, Dagster, Grafana/Prometheus, AWS, Azure, GCP
- **Data & ML:** Python, SQL, dbt, PostgreSQL/TimescaleDB, Snowflake, BigQuery, MLflow, scikit-learn, PyTorch, Pandas/Polars
- **Also used:** TypeScript, FastAPI, Streamlit, Vue.js, Ataccama, MinIO, Java