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Stuttgart, Germany
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M.Sc. Christian Reiser

Machine Learning Engineer and Architect

GitHub: christianreiser
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Google Scholar: Christian Reiser

Technical Experience

Generative AI and Cloud Engineering — **Senior Machine Learning Engineer, starting JUL 2024**
e-dialog — *Vienna, Austria*

- Due to previous commercial success, I will build and lead the Generative AI Team.

Generative AI and Cloud Engineering — **Machine Learning Engineer, NOV 2022 – JUN 2024**
e-dialog — *Vienna, Austria*

- Leading Generative AI task force
- From idea to ROI: Client pitches, obtaining Google funding, business and technical requirements, architecture, project plan, development, deployment, support.
- Well connected with Google Cloud managers and engineers, and obtained the Partner Advantage Specialization.
- Developed and deployed **LLMs** to production to generate newsletters, product descriptions, and SEO texts.
- Built and deployed**ChatBots** using **OpenAI APIs**, **LangChain**, **Retrieval-Augmented Generation (RAG)**.
- **Fine-tuned** LLMs via supervised learning and HFRL on **TPUs** in GCP.
- Architected and engineered with **GCP** as a Google Cloud Partner mainly via serverless resources like **Vertex AI**, Cloud Run, and Cloud Functions, CI/CD.

Anomaly Detection for Smart Factories — **Applied Data Scientist, APR 2022 - NOV 2022**
Phinc GmbH — *Stuttgart, Germany*

- Developed real-time anomaly detection **auto-encoders**, saving approximately €40,000 per detection, increasing productivity, and reducing downtime.
- Utilized **Linux**, **Pycharm**, Python, **Jupyter notebooks**, **pandas**, **NumPy**, **Docker**, **Scikit-Learn**, multiprocessing, and pickle for efficient data processing and analysis.

Development of a Scientific Data-Driven Healthcare App — **Owner and Leader, MAI 2019 – APR 2022**
InsightMe — *Stuttgart, Germany*

- Led a team development of InsightMe, an innovative healthcare app leveraging AI/ML algorithms for **causal discovery and inference** from high-dimensional **time-series** data, accounting for contemporaneous links and latent confounders.
- **Data collection** via **crawlers**, **APIs**, BigQuery data transfers.
- **(ML)DevOps**: Deploy and maintain Cloud Infrastructure using Git, IaC with **Terraform**, Vertex AI Pipelines. **CI/CD** with Cloud Build.
- Employed **NLP**, **GPT-3**, Bayesian inference, ML Cloud **Architecture** and **Solution Design**, **GCP** tools (Firestore, Pub/Sub, Cloud Storage, BigQuery (**SQL**), Cloud Run, Cloud Functions, IAM, Logging, Monitoring, Alerting), front-end development (Flutter).

Autonomous Flight of Helicopters — **Machine Learning Engineer, APR 2018 – APR 2019**
Volocopter GmbH — *Bruchsal, Germany*

- Developed a vision-based **object detection** system, achieving superior accuracy in identifying birds and enhancing the safety of autonomous helicopter flights.
- Applied **deep learning** techniques in **simulation**, with **PyTorch** followed by **fine tuning**.

Autonomous Driving — **Machine Learning, JAN 2017 – MAR 2018**
Udacity / Mercedes-Benz — *Stuttgart, Germany / California, United States*

- In a team of 5 we programmed a car to drive autonomously on a test track (GitHub repository).

Publications

- Predicting and Visualizing Daily Mood of People Using Tracking Data (Link to Paper)
- Observational Causal Discovery with Latent Confounders (Link to Paper)
- Observational and Interventional Causal Learning for Regret-Minimizing Control (Link to research report)

Education and Certificates

- B.Sc. Aerospace Engineering, University of Stuttgart
- **M.Sc. Simulation Technology** (Elite Program and part of the Cluster of Excellence), University of Stuttgart
- Self-driving Cars Engineer Nanodegree, Udacity
- 4 Google Cloud Certificates: **Cloud Engineer**, Professional **Data Engineer**, Professional Cloud **Architect**, Professional **Machine Learning** Engineer
- 12 online courses about **generative AI** including Responsible AI, LLM, attention mechanism, transformer, BERT, image generation, encoder-decoder architecture