M.Sc. Christian Reiser

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Machine Learning Engineer and Architect

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TECHNICAL EXPERIENCE

Generative AI and Cloud Engineering
e-dialog

Data Scientist, NOV 2022 – Present
Vienna, Austria

- Leading Generative AI task force
- Fine-tuned and deployed the **multimodal text-to-image diffusion model** Imagen.
- Prompt-engineered, integrated and deployed the **text-to-text LLM** into production systems that generate newsletters, product descriptions, and search-engine-optimized texts.
- Built and deployed a **ChatBot** to chat with 80k documents via **OpenAI APIs**, **embeddings**, **LangChain**, and **Vector Databases**.
- **Fine-tuned** 340B parameter models (PaLM text-bison-001) via supervised learning and HFRL on **TPUs** in GCP.
- Architected and engineered with **GCP** as a Google Cloud Partner mainly via **Vertex AI**
- 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.

Anomaly Detection for Smart Factories
Phinc GmbH

Applied Data Scientist, APR 2022 - NOV 2022
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
InsightMe

Owner and Leader, MAI 2019 – APR 2022
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
Volocopter GmbH

Machine Learning Engineer, APR 2018 – APR 2019
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**, employing **GANs** with **PyTorch** for domain **fine tuning**.
- **Agile** development with Scrum.

Autonomous Driving
Udacity / Mercedes-Benz

Machine Learning, JAN 2017 – MAR 2018
Stuttgart, Germany / California, United States

- Engaged in a hands-on course to develop an autonomous vehicle, programming a car to navigate a test area successfully (GitHub repository).
- Collaborated with a team of five, utilizing **Python**, C++, **TensorFlow**, **OpenCV**, **AWS**, ROS.

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