Christian Reiser
Machine Learning Scientist and Engineer

+49 1578 176 4508
Stuttgart, Germany
christian.reiser@insightme.org

GitHub: christianreiser
LinkedIn: reiserchristian
Google Scholar: Christian Reiser

TECHNICAL EXPERIENCE

Generative AI and Cloud Engineering   **Data Scientist, NOV 2022 – Present**
e-dialog   *Vienna, Austria*
- Fine-tuned and deployed the **multimodal text-to-image diffusion model** Imagen.
- Utilized **image-to-text** models BLIP2 for image captioning.
- **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 **TPUs** in GCP.
- Architected and engineered with **GCP** as a Google Cloud Partner: **Vertex AI, Gen App Builder** (LLM for enterprise search and ChatBots)
- From idea to ROI: Business requirements, technical requirements, technical feasibility, architecture, project plan, development.

Development of a Scientific Data-Driven Healthcare App   **Owner, APR 2020 – NOV 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**, **GCP** tools (Firestore, Pub/Sub, Cloud Storage, BigQuery (**SQL**), Cloud Run, Cloud Functions, IAM, Logging, Monitoring, Alerting), front-end development (Flutter).

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.

Autonomous Flight of Helicopters   **Autonomous Flight 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**, employing **GANs** with **PyTorch** for domain **fine tuning**.
- Collaborated effectively in a **Scrum** development environment, contributing to agile project management.

Autonomous Driving   **JAN 2017 – DEC 2017**
Udacity / Mercedes-Benz   *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**, and the Robotic Operating System (ROS) for software development and computer vision tasks.

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
- Google Cloud Certified Associate Cloud Engineer
- Google Cloud Certified Professional Data Engineer
- Google Cloud Certified Professional Cloud Architect
- Completed twelve online courses about generative AI including Responsible AI, LLM, attention mechanism, transformer, BERT, image generation, encoder-decoder architecture