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Christian Reiser

Machine Learning Scientist/Engineer

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Technical Experience

Machine Learning for Marketing — **Data Scientist & Engineer, NOV 2022 – Present**
e-dialog — *Vienna, Austria*

- Developed an end-to-end recommendation system on Google Cloud Platform (GCP) using BigQuery for data warehousing, Data Studio for visualization, and leveraging ML models for personalized recommendations.
- Streamlined infrastructure deployment and maintenance through Infrastructure as Code (IaC) using Terraform and implemented Continuous Integration/Continuous Deployment (CI/CD) pipelines.
- Conducted data analysis and manipulation using Python and SQL to gain insights and optimize marketing strategies.

Development of a Scientific Data-Driven Healthcare App — **Owner, APR 2020 – NOV 2022**
InsightMe — *Stuttgart, Germany*

- Led the development of InsightMe, an innovative healthcare app leveraging machine learning algorithms to infer causal relationships from high-dimensional time-series data, accounting for contemporaneous links and latent confounders.
- Implemented robust what-if prediction models capable of learning from both observational and interventional data while handling i.i.d. violations.
- Designed a feature providing actionable insights by elucidating cause-effect relationships and recommending regret-minimizing actions to users.
- Employed Python, PyTorch, scikit-learn, tigramite, Flutter, Dart, and Seaborn for app development, data processing, and visualization.

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

- Deployed sensors on CNC-milling machines and designed a real-time anomaly detection algorithm, saving approximately €40,000 per detection, increasing productivity, and reducing downtime.
- Utilized Linux, Pycharm, Python, Jupyter notebooks, pandas, multiprocessing, and pickle for efficient data processing and analysis.

Autonomous Flight of Helicopters — **Intern and Thesis Student, APR 2018 – APR 2019**
Volocopter GmbH — *Bruchsal, Germany*

- Developed a vision-based hazard detection system using TensorFlow, 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 adaptation to real-world scenarios.
- Designed and automated the IMU sensor calibration process, a critical component of the Volocopter 2X fleet, using C++ and Python.
- Established automated quality control algorithms for the IMU calibration process, ensuring high accuracy and reliability.
- 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, 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 Paper)

Education and Certificates

- 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