



MANUEL ALEXANDER HIRZEL

I am an enthusiastic problem solver with a holistic and process-oriented view of technical problems. I'm passionate about aligning engineering efforts with business objectives and I enjoy enabling people and teams to achieve their goals. My academic background in mathematics and my proven track record in developing shippable ML software allow me to successfully navigate the AI/ML industry.



Vist hirzel.technology



Berlin, Germany



on request



on request



IcebergLettuce

Kubernetes

MLOps

Platform Engineering

Machine Learning

Peopleware

Agile

Software Engineering

Python

.NET Core

Cross-Functional Work

Streamlining Processes

PROFESSIONAL EXPERIENCE

Technical Advisor | Health Tech

ai4medicine GmbH

October 2020 - January 2021

- Moderated and created workshops to inspire an **AI platform strategy** in health tech involving one of my own developed strategy tools [[AI Quadrant](#), [Stakeholder Analysis](#)]
- Coached ML engineer to implement a co-developed career growth plan that includes basic ML system designs and how to manage stakeholder expectations.
- Supported the founder in the development of internal structures and processes

Data Science Platform Engineer | Energy Trading

Convex Energy GmbH

September 2019 - October 2020

- Conceptualized and supervised the redesign of a mission-critical data ingestion system to digest up to **5k time series** from **14 different sources** by teaming up with three engineers [[SQL](#), [.NET Core](#), [SignalR](#), [Redis](#), [Docker](#), [Kubernetes](#), [Grafana](#), [Elasticsearch](#)]
- Allied stakeholders and orchestrated the build of an internal K8 based **ML platform** for algorithmic trading to achieve a competitive advantage on the Markets
 - Reduced the deployment time from days to minutes
 - Guaranteed **100%** tracking of ML models and their performance; provided by the platform's observability strategy
 - **90%** automatization of the **MLOps** workflow [[Python](#), [Redis](#), [SQL](#), [RabbitMQ](#), [Git](#), [.NET Core](#), [Kubernetes](#), [CI&CD](#)]
- Partnered with CTO in hiring new talents and creating a smooth onboarding experience

Software Engineer | Energy Trading

Convex Energy GmbH

March 2018 - August 2019

- Architected and implemented a bare-metal **Kubernetes** infrastructure to move to a cloud-native architecture [[Kubernetes](#), [CI & CD](#), [Docker](#), [Networking](#), [Ingress](#), [Load Balancing](#)]
- Created and deployed an automatic scheduling system to report trading activities towards the transmission system operators by using **secure communication gateways** [[SQL](#), [.NET Core](#) [Public Key Infrastructure](#)]
- Identified performance bottlenecks by profiling the infrastructure with test services and the observability stack [[.NET Core](#), [Grafana](#)]

Data Scientist | Energy Trading

Convex Energy GmbH

May 2017 - February 2018

- Delivered **machine learning models** (Random Forests, Hidden Markov, DL & NNs) to forecast Day-Ahead-Auctions on Energy Markets [[Python](#), [Tensorflow](#), [Scikit-Learn](#)]
- Collaborated in **cross-functional** teams of Data Scientists, Quants & Power Traders to identify market inefficiencies mathematically
- Initiated to define software engineering standards to improve the model development process; significant improvement of deployment rate and reliability of ML models

Automation Engineer | Chocolate Manufacturing

Lindt & Spruengli AG

August 2011 - September 2012

- Prototyped a novel approach to remove leftover **chocolate** from molds after the casting process; awarded a **bonus** by the VP of Engineering for the **innovative contribution**

EDUCATION

M.Sc. Scientific Computing - Institute of Mathematics

Technical University Berlin & CLAIM

September 2016 - October 2021

- Student researcher at **Charite Lab for AI in Medicine** to conduct my master thesis
- (in review) Thesis: Synthetic TOF-MRA image-label pairs with differential privacy guarantees using generative adversarial networks [[PyTorch](#), [Tensorflow](#), [DP](#), [GAN](#)]

B.Sc. Engineering and Management

University of Applied Sciences Zurich

October 2013 - August 2016

- Thesis: Variational Bayesian Hidden Markov Models

Automation Engineer - Apprenticeship

Lindt & Spruengli AG

August 2007 - September 2012

PUBLICATIONS

- (in review) "Towards sharing brain images: Differentially private TOF-MRA images with segmentation labels using generative adversarial networks", **Frontiers in AI**, 2022

COURSES & TRAINING

Product Management

KV Business School Zurich

May 2012 - December 2012

SIDE PROJECTS & GIGS

Corona Dashboard & Germany's Super Election 2021

Verlag der Tagesspiegel

Corona Wave 1 - 4 & September 2021

- Supported the Tagesspiegel Innovation Lab Team in processing real-time data from multiple sources to create interactive maps; [Corona Dashboard](#), [Election](#) [[Python](#)]

SKILLS

C# (fluent), Python (fluent), Typescript (intermediate), GO (basics), .NET Core 3.1, .Net 6, SignalR, Angular, RabbitMQ, Azure, AWS, Terraform, Machine Learning, Deep Learning, GANs, CI & CD, GitOps, MLOps, DevOps, System Design, MongoDB (basic), SQL Server, Linux, Docker, Project Management, Process Design, Collaboration, Peopleware