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.

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○ IcebergLettuce   in www.linkedin.com/in/manuel-hirzel

`Kubernetes` `MLOps` `Platform Engineering` `Machine Learning` `Peopleware`
`Software Engineering` `Python` `.NET 6` `Cross-Functional Work` `Streamlining Processes`

PROFESSIONAL EXPERIENCE

Technical Advisor | Health Tech

ai4medicine GmbH   October 2020 - January 2021

- Moderated and created workshops to design **AI platform strategies** in health tech involving one of my own developed strategy tools [AI Quadrant, Stakeholder Analysis]
- Trained ML engineers to accomplish the jointly developed **career growth plan**
- Guided the founder in the introduction 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 Energy Markets
  - Time-to-value an order of magnitude faster compared to known competitors by reducing the deployment time from multiple days to less than **10 minutes**
  - Guaranteed **100%** observability of ML models and their performance
  - **90%** automatization of the **MLOps** workflow and the ML model development process [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 established a **bare-metal Kubernetes** infrastructure to move the technology of the company towards a cloud-native **microservice** architecture [Kubernetes, CI &CD, Docker, Networking, Ingress, Load Balancing]
- Ceated 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]
- Profiled the performance of the cloud infrastructure with self-built performance analysis applications; Identification and removal of bottlenecks [.NET Core]

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
- Negotiated software engineering standards to streamline the model development process; Deployment rate and reliability of ML Models were improved significantly.

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
- Thesis: Synthetic TOF-MRA image-label pairs with differential privacy guarantees using generative adversarial networks [PyTorch, Tensorflow, Differential Privacy, 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

- Supported the Tagesspiegel Innovation Lab Team in processing real-time data to create interactive maps [Python]

SKILLS

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