Konstantin Ditschuneit

📍 **Home** : Berlin, Germany

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Date of birth: 24/07/1997   **Nationality:** German

WORK EXPERIENCE

[06/2021 – Current]

Machine Learning Researcher

Merantix Momentum GmbH, Berlin

- Worked as a Machine Learning Researcher on online model pruning, energy demand forecasting, and interpretable neural networks.
- Built a research-specific tech-stack encompassing multiple Google Cloud projects defined using Terraform, a research-focused remote execution framework in Kubernetes, and a shared code repository designed to foster collaboration across research projects.

[06/2019 – 06/2021]

Student group "KITcar": development of an open source simulator

KITcar e.V.

- Developed and open-sourced a ROS-based vehicle simulator to test our vehicles,
- implemented a GAN to render simulated images into seemingly real images
- won the Carolo-Cup competition in 2020 and 2021.

[07/2016 – 09/2016]

Internship: "mobile application developer"

Poolarserver GmbH   https://apps.apple.com/us/app/poolaroffice/id1139784626#?platform=iphone

EDUCATION AND TRAINING

[2019 – 2022]

Master's degree in computer science

Karlsruhe Institute of Technology

Final Grade: **1.5** | Deep Learning, Algorithm Engineering, GPU Computing

[2016 – 2019]

Bachelor's degree in physics

Humboldt-Universität zu Berlin

Final Grade: **1.6** | Tutor for Linear Algebra

LANGUAGE SKILLS

Mother tongue(s): German

Other language(s): English C2

PUBLICATIONS

Curve Your Enthusiasm: Concurvity Regularization in Differentiable Generalized Additive Models

IMLH 2023, 2023

We demonstrate how concurvity can severely impair the interpretability of GAMs and propose a remedy: a conceptually simple, yet effective regularizer which penalizes pairwise correlations of the non-linearly transformed feature variables.

Auto-Compressing Subset Pruning for Semantic Image Segmentation

GCPR 2022

ACOSP learns a channel selection mechanism for individual channels of each convolution in the segmentation model based on an effective temperature annealing schedule. We show a crucial interplay between providing a high-capacity model at the beginning of training and the compression pressure forcing the model to compress concepts into retained channels.

NAM-CAM: Neural-Additive Models for Semi-Analytic Descriptions of CAM Simulations

FAIM 2023

Using Neural-Additive Models (NAMs), we create a semi-analytic model that improves guided search through the configuration space and reduces convergence time to an optimal parameter set.

AI for Energy Demand Forecasting

Kaggle Challenge & Blog Post, 2022

We describe our approach to participate in the Energy Demand Forecasting Kaggle challenge. Through an iterative and fast-paced mindset we were able to quickly understand the problem and apply our data scientist skill set to a new domain and even won the challenge.

Self-Supervised Learning

Blog Post, 2022

SSL methods are used for pretraining models on unlabeled data to significantly reduce the amount of labeled data required for fine-tuning downstream tasks.