JULIEN MARTEEN AKAY

Data Science in Industry & Deep Learning in Research

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EXPERIENCE

Data Science Consultant

Ailio GmbH

Nov 2020 – Ongoing Bielefeld

- Lead and finished projects on my own while being a full-time student and having a another part-time job in research.
- Latest project: Implemented an OCR&NLP-pipeline to extract visual text from videos into a custom JSON schema for the German Broadcasting Archive.
- Others: Machine Learning based counting of sewing processes using audio and vibration data. Prediction of repair measures for defective building technology products and subsequent cost estimation for repairs through machine learning.

Graduate Research Assistant

University of Applied Sciences and Arts Bielefeld (HSBI)

Sep 2023 – Ongoing Bielefeld

- Worked (contributing and implementing own ideas) at the Center for Applied Data Science (CfADS) on AI in Healthcare.
- Achieved State-of-the-Art performance in wound image classification, surpassing competitors by a significant margin. Details will be disclosed in an upcoming paper and are currently confidential.

Graduate Research Assistant

University of Applied Sciences and Arts Bielefeld (HSBI)

Mar 2022 – Jul 2022 Bielefeld

- Worked (contributing and implementing own ideas) at the Center for Applied Data Science (CfADS) on denoising Super-Resolution Structured Illumination Microscopy (SR-SIM) images using generative AI.
- Implemented Latent-Variable Energy-Based Models (LV-EBM), Joint-Embedding Predictive Architectures (JEPA) and Generative Adversarial Networks (GAN).
- Demonstrated strong performance in denoising high-resolution SR-SIM images. Details will be disclosed in an upcoming paper and are currently confidential.

TALKS

Artificial Intelligence Center Hamburg (ARIC)

- Non-Contrastive Self-Supervised Learning with VICReg
- Latent-Variable Energy-Based Models (LV-EBM)

KI @ HSBI Kongress (English: AI @ HSBI Congress)

- AI in Healthcare

EDUCATION

M.Sc. Research Master Data Science

University of Applied Sciences and Arts Bielefeld (HSBI)

Sept 2021 – Mar 2023

Project over two years: Assistance in Wound Care through Artificial Intelligence for Wound Analysis, Assessment, and Treatment.
Thesis title: Non-Contrastive Self-Supervised Learning: A Path To Enhanced Wound Image Recognition

B.Eng. Mechanical Engineering

University of Applied Sciences and Arts Bielefeld (HSBI)

Sept 2016 – Sep 2021

Programmed as a hobby in 2018 and wanted to focus on AI, hence I took additional courses and passed the exams in:

- Machine Learning and Data Mining
- Algorithms and Data Structures

Thesis title: Feature Learning on Audio Signals using Convolutional Neural Networks.

SKILLS

Programming: Python Jax

Tools: PyTorch Lightning TensorFlow Scikit-Learn Numpy Pandas Docker Flask Git

Other: Driving license

LANGUAGES

German (native) ●●●●●

Aramaic (native) ●●●●●

English ●●●●◐

RESEARCH INTERESTS

I want to develop **human-level AI** and my current plan is to implement Objective-Driven AI (ODAI).