HAI DANG

Doctoral HCI Researcher
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I'm a Ph.D. candidate at the university of Bayreuth and part of the HCI+AI research group. My work focuses on conceptualizing and building new tools to enable non-expert users to continuously interact with generative models and craft new things with the help of deep learning models.

EDUCATION

University of Bayreuth, Bayreuth Germany *2020/09 - 2024/07*
Doctor of Philosophy
Department of Computer Science

LMU Munich, Munich Germany *2018/10 - 2020/07*
Master of Science
Department of Computer Science GPA: 3.7 — (German Scale: 1.23)
Thesis: Representational Learning for Exploring
Input Spaces in HCI

LMU Munich, Munich Germany *2013/10 - 2018/07*
Bachelor of Science
Department of Computer Science GPA: 3.7 — (German Scale: 1.38)
Thesis: Deep Conformance Checking
Efficient Estimation of Alignment Based Fitness.

Yonsei University, Seoul South Korea *2016/08 - 2017/07*
Bachelor of Science
Department of Computer Science *Year Abroad*

TECHNICAL STRENGTHS

Python Libraries	PyTorch (primarily), Pandas, Numpy, Tensorflow
Programming Languages:	Python (primarily), JavaScript / Typescript, Java
Web-Frameworks:	React, D3js, Flask / FastAPI
DevOps:	Docker, Nginx, Git
OS:	Unix Systems (primarily), Windows (occasionally)

PUBLICATION

Hai Dang and Daniel Buschek. 2021. **GestureMap: Supporting Visual Analytics and Quantitative Analysis of Motion Elicitation Data by Learning 2D Embeddings.** In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (*CHI '21*). Association for Computing Machinery, New York, NY, USA, Article 317, 1–12. DOI: `https://doi.org/10.1145/3411764.3445765`

UNIVERSITY PROJECTS

Representational Learning for Exploring Input Spaces in HCI SS20
Master Thesis

- Developed an interactive tool to analyze and visualize gesture elicitation studies in HCI.
- Used a VAE to learn a two-dimensional gesture space from depth images recorded with a Kinect Sensor.
- Conducted expert interviews to evaluate the tool.

Ensemble Knowledge Graph Embedding WS 2019
Seminar: Group Project

- Reimplemented ConvE (Dettmers et al. 2018) and improved computation time by 30% by using adequate vectorization.
- Managed and monitored the machine learning models and the remote training clouds using MlFlow and DVC.

Evaluation of Consumer Grade BCI Devices SS 2019
Seminar: Group Project

- Applied basic signal processing techniques on the raw EEG recordings to extract the alpha and theta frequencies that characterize the cognitive workload.
- Trained multiple classifiers from the SciKit library to differentiate between various workload levels.

Development of an Interactive Sleep Monitoring Device SS 2019
Seminar: Group Project

- Built the analytics backend to collect and analyze sleep data.
- Designed the communication protocol between the device and the analytics backend.

Power Efficient High Performance Computing WS 2018
Seminar: Group Project

- Developed a recurrent neural network model for the prediction of energy consumption.
- Achievement: Won the class competition for most accurate predictions by employing an autoregressive recurrent neural network.

SELECTED WORK EXPERIENCE

SWM, Munich 2019/08 - 2019/11
Machine Learning Developer *Working Student*

- Collected and integrated electricity data from various transmission system operators
- Implemented multiple autoregressive models to predict feed-in-management operations
- Built and deployed an end-to-end machine learning solution

Celonis, Munich 2017/10 - 2019/02
Software Developer / Data Scientist *Working Student*

- Responsible for the Python Data Push API for the Celonis Business Intelligence Cloud Platform.
- Developed a pipeline to programmatically analyze event data.
- Developed business analyses and gave data science workshops
- Developed tools to automate and administrate the Celonis Process Mining Platform

SELECTED RELEVANT COURSEWORK

Data Processing and Analysis: Deep Learning Algorithms, Machine Learning, Knowledge Discovery in Databases, Probability and Measure Theory, Big Data Management
Human-Computer-Interaction: Advanced topics on HCI, Intelligent User Interfaces, Human-Computer-Interaction
General Software Development: Data Structures and Algorithms, Software Architecture, Software Testing, Agile Development