HAI DANG

hai.dang@uni-bayreuth.de

Doctoral HCI Researcher (2nd Year)

Ph.D. candidate in the **HCI+AI** research group with strong **quantitative research skills** and a record of publications at top-tier peer reviewed conferences. Interested in the design of **interactive co-creative systems** to empower users to create more expressive digital content. I conduct **user studies** to understand pitfalls in the status-quo process of humans interacting with imperfect AIs.

EDUCATION

since 2020 **Ph.D. in Human Computer Interaction**
University of Bayreuth, Bayreuth Germany
Department of Computer Science, *Advisor: Daniel Buschek*
Research Focus: Designing interactive co-creative systems.

2020 **Master of Science in Computer Science**
University of Munich, Munich
Department of Computer Science
Thesis - Representational Learning for Exploring Input Spaces in HCI

2018 **Bachelor of Science in Media Informatics**
University of Munich, Munich
Department of Computer Science
Thesis - Deep Conformance Checking: Efficient Estimation of Alignment Based Fitness.

2017 **Bachelor of Science in Media Informatics**
Yonsei University, Seoul
Department of Computer Science
Year Abroad

SELECTED PROFESSIONAL EXPERIENCE

2020 **Research Assistant**, University of Bayreuth
Building interactive co-creative systems.
- Using generative models to improve user interfaces [P.2].
- Improve user interface for generative models [P.1].

2020 **Research Intern: HCI+AI**, University of Bayreuth
Developed Visual Analytics tool for Motion Sensor data. (Python + ReactJS) [P.2].

2019 **Machine Learning Developer**, SWM, Munich
Built and deployed an end-to-end electricity consumption prediction model. (PyTorch)

2017 **Software Developer / Data Scientist**, Celonis, Munich
Developed Python Data Push API for the Celonis Business Intelligence Cloud Platform

SKILLS

User Research:	Online Surveys, Computational Analysis Methods Expert Interviews, Think-Aloud-Protocol, Statistical Analysis
Programming Languages:	Python (advanced), JavaScript (advanced)
Frameworks:	PyTorch (advanced), Tensorflow (prior experience) React (advanced), D3js (fundamentals)

TEACHING ASSISTANT

2021 **Creating Intelligent Interactive Systems**, University of Bayreuth
Introduction to Machine Learning on Mobile devices
Undergraduate/Graduate level course, with 37 students (Instructor: Daniel Buschek)

2020 **Intelligent User Interfaces**, University of Bayreuth
Introduction to Web Applications using SvelteJS
Undergraduate level course, with 59 students (Instructor: Daniel Buschek)

Creating Intelligent Interactive Systems, University of Bayreuth
Introduction to Machine Learning on Mobile devices
Undergraduate/Graduate level course, with 21 students (Instructor: Daniel Buschek)

2016 **Programming Multi Media Applications**, University of Munich
Introduction to Python Development for Games.
Undergraduate level course, with 116 students (Instructor: Prof. Heinrich Hussmann)

PEER-REVIEWED CONFERENCE AND WORKSHOP PUBLICATIONS

2022 P.1 **Hai Dang**, Lukas Mecke, Daniel Buschek. 2022. **GANSlider: How Users Control Generative Models for Images using Multiple Sliders with and without Feedforward Information.** (*to appear CHI '22*). Association for Computing Machinery, New York, NY, USA.

2021 P.2 **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.

P.3 Daniel Buschek, Lukas Mecke, Florian Lehmann, **Hai Dang** 2021. Nine Potential Pitfalls when Designing Human-AI Co-Creative Systems. In *HAI-GEN Workshop at IUI'21* (*IUI'21*). In Proceedings of the ACM IUI 2021 Workshops, April 13-17, 2021.

SELECTED PROJECTS

2021 **Search Engine for digitalized Floor Plans 48h TUM.ai Makeathon**,
- Lead development of an interactive search engine for digitalized floor plans.
- Created a dataset with hand-drawn floor plan shapes.
- Embedded floor plans using a convolutional Autoencoder and performed Nearest-Neighbor search.

2020 **Ensemble Knowledge Graph Embedding - Seminar: Group Project**,
- Reimplemented ConvE (Dettmers et al. 2018) and improved computation time by 30% by using vectorization for masking operation.
- Managed and monitored machine learning models and remote training clouds using MlFlow and DVC.

2020 **Evaluation of Consumer Grade BCI Devices - Seminar: Group Project**,
- Applied basic signal processing techniques on the raw EEG recordings to extract alpha and theta frequencies that characterize the cognitive workload.
- Trained multiple classifiers from the SciKit library to differentiate between various workload levels.

2019 **Development of an Interactive Sleep Monitoring Device**, Seminar: Group Project
- Built the analytics backend to collect and analyze sleep data.
- Designed the communication protocol between the device and the analytics backend.

2019 **Power Efficient High Performance Computing - 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.

VOLUNTEERING

2021/22 **Education Team Lead**, TUM.ai

Leading the TUM.ai AI School initiative where we teach foundational AI knowledge to aspiring students. Our goal is to give interdisciplinary teams a common understanding and vocabulary to discuss and successfully implement AI projects.

2021 **Recruitment Lead — Community Building**, TUM.ai

TUM.ai connects students and all relevant stakeholders to facilitate the application of AI across domains to drive positive societal impact through interdisciplinary projects.

2021 **Web Chair - IUI 2022**, ACM, Association for Computing Machinery

ACM IUI is where the Human-Computer Interaction (HCI) community meets the Artificial Intelligence (AI) community.