

Guanhua Zhang

PhD Candidate · University of Stuttgart

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Education

University of Stuttgart

PhD in Computer Science

• Institute for Visualisation and Interactive Systems; Supervised by Prof. Andreas Bulling

Stuttgart, Germany

Sep 2020 - Aug 2024

International Max Planck Research School for Intelligent Systems (IMPRS-IS)

PhD Scholar

• Thesis Advisory Committee: Prof. Andreas Bulling, Prof. Steffen Staab, Prof. Katherine J. Kuchenbecker

Stuttgart, Germany

Feb 2021 - Aug 2024

Tsinghua University

MSc in Computer Science and Technology

• Institute of HCI and Media Integration; Supervised by Prof. Yong-jin Liu

Beijing, China

Sep 2017 - Jun 2020

Beijing University of Posts and Telecommunications (BUPT)

BSc in Computer Science and Technology

Beijing, China

Sep 2013 - Jun 2017

Professional Experience

2020-2024 **Researcher (Wissenschaftlicher Mitarbeiterin)**, Perceptual User Interfaces group, University of Stuttgart

Teaching Assistant, University of Stuttgart

2015-2020 **Research Assistant**, Graphics and Geometric Computing Group, Tsinghua University

Research Assistant, Engineering Psychology and Human Factors Laboratory, Chinese Academy of Sciences

2014-2015 **Research Assistant**, Beijing University of Posts and Telecommunications

Publications

PUBLISHED

Guanhua Zhang, Zhiming Hu, Mihai Bâce, Andreas Bulling. *Mouse2Vec: Learning Reusable Semantic Representations of Mouse Behaviour*, In Proc. ACM CHI conference on Human Factors in Computing Systems (CHI). 2024.

Guanhua Zhang, Matteo Bortoletto, Zhiming Hu, Lei Shi, Mihai Bâce, and Andreas Bulling. *Exploring Natural Language Processing Methods for Interactive Behaviour Modelling*. In Proc. IFIP TC13 Conference on Human-Computer Interaction (INTERACT). 2023. [**Nominated for Best Doctoral Student Paper Award**]

Fang Liu, Pei Yang, Yezhi Shu, Fei Yan, Guanhua Zhang, and Yong-Jin Liu. *Emotion Dictionary Learning with Modality Attentions for Mixed Emotion Exploration*. IEEE Transactions on Affective Computing (TAFFC, IF=11.2). 2023.

Guanhua Zhang, Susanne Hindennach, Jan Leusmann, Felix Bühler, Benedict Steuerlein, Sven Mayer, Mihai Bâce, and Andreas Bulling. *Predicting Next Actions and Latent Intents during Text Formatting*. In Proc. the CHI Workshop Computational Approaches for Understanding, Generating, and Adapting User Interfaces. 2022.

Guanhua Zhang, Minjing Yu, Yong-Jin Liu, Guozhen Zhao, and Dan Zhang. *SparseDGCNN: Recognizing Emotion from Multichannel EEG Signals*. IEEE Transactions on Affective Computing (TAFFC, IF=11.2). 2021. [**56 citations**]

Philipp Müller, Dominik Schiller, Dominike Thomas, Guanhua Zhang, Michael Dietz, Patrick Gebhard, Elisabeth André, and Andreas Bulling. *MultiMediate: Multi-modal Group Behaviour Analysis for Artificial Mediation*. In Proc. ACM Multimedia (MM). 2021.

Xiaobing Du, Cuixia Ma, Guanhua Zhang, Jinyao Li, Yu-Kun Lai, Guozhen Zhao, Xiaoming Deng, Yong-Jin Liu, and Hongan Wang. *An Efficient LSTM Network for Emotion Recognition from Multichannel EEG Signals*. IEEE Transactions on Affective Computing (TAFFC, IF=11.2). 2020. [**127 citations**]

Guozhen Zhao, Yulin Zhang, Guanhua Zhang, Dan Zhang, and Yong-Jin Liu. *Multi-target Positive Emotion Recognition from EEG Signals*. IEEE Transactions on Affective Computing (TAFFC, IF=11.2). 2020.

Guanhua Zhang, Minjing Yu, Guo Chen, Yiheng Han, Dan Zhang, Guozhen Zhao, and Yong-Jin Liu. *A Review of EEG Features for Emotion Recognition (in Chinese)*. SCIENTIA SINICA Informationis. 2019. [**2021 Hot Paper Award**]

Chengwen Zhang, Lei Zhang, Guanhua Zhang. *QoS-aware mobile service selection algorithm*. Mobile Information Systems. 2016.

Awards, Scholarships, & Grants

- 2019 **Gemalto Scholarship**, The highest amount comprehensive scholarship in department
- 2018-2019 **Vice President of Department Students' Union**
Outstanding Individual in Department Students' Union
- 2014-2016 **BUPT Merit Student**, Top 3%
BUPT Scholarship, Top 5%
- 2012 **2nd Prize at National Olympiad in Informatics in Provinces**, China Computer Federation

Presentations

INVITED TALKS

2022 **Computational User Behaviour Modeling and Affective HCI**, Accessible & Pervasive User EXperience (APEX) Group, Hong Kong University of Science and Technology (Guangzhou) *Online*

ORAL PRESENTATIONS

- 2023 **Exploring Natural Language Processing Methods for Interactive Behaviour Modelling**, INTERACT'23 *York, UK*
- 2022 **Predicting Next Actions and Latent Intents during Text Formatting**, CHI'22 Workshop *Online*

POSTER PRESENTATIONS

- 2023 **Learning Reusable Semantic Representations of Mouse Behaviour**, IMPRS-IS Bootcamp *Tübingen, Germany*
- 2022 **Interact2Vec: Learning Language of Interactive Behaviour**, Stuttgart ELLIS Unit Kick-Off Event *Stuttgart, Germany*

Teaching Experience

UNIVERSITY OF STUTTGART

- WS23/24 **Machine Perception and Learning**, Course co-organiser
- WS22/23
SS22 **Machine Perception and Learning**, Teaching assistant
- WS21/22 **Machine Learning and Computer Vision for HCI (Fachpraktikum)**, Teaching assistant
- WS20/21 **Machine Learning Approaches to Understanding User Behavior (Hauptseminar)**,
Teaching assistant

Mentoring

MASTER STUDENTS

- Yizhen Wang** *University of Stuttgart*
Jan 2024 - Jul 2024
Research Project: Generating Touch Typing on Mobile Devices
- Yuxuan Cheng** *University of Stuttgart*
Jun 2023 - Jan 2024
Internship: Learning Reusable Embeddings of Mouse, Touch and Pen Data
- Jize Zhang** *University of Stuttgart*
Apr 2023 - Jun 2023
Internship: Keyboard behaviour representation learning
- Timo Hüttner, Thomas Marmann** *University of Stuttgart*
Oct 2022 - Feb 2023
Course Project: Representation Learning from Mouse Based on Contrastive Learning

Nithyasree Pushpalatha

- Thesis: Gaze2vec: Learning Embeddings from Camera-based Eye Tracking Data
- Research Project: Hyperdimensional Computing-based Prediction of Personality Traits Using Multimodal Data
- Course Project: Predicting personality traits using multimodal data

University of Stuttgart

Nov 2020 - Dec 2022

Xuefeng Hou

Internship: Intent Prediction from Gaze during Text Formatting

University of Stuttgart

May 2022 - Jun 2022

Vishnu Gangadhara Naik, Austin Vas

Course Project: Predicting personality traits from mouse and keyboard embeddings

University of Stuttgart

Oct 2021 - Feb 2022

Anandavalli Veerasubramanian

Course Project: Group-Level Personality Analysis and Detection

University of Stuttgart

May 2021 - Nov 2021

Tobias Walter, Akilandeewari Shanmuga Sundaram

Course Project: Predicting personality traits from mouse and keyboard behaviors

University of Stuttgart

Apr 2021 - Jul 2021

Priyadarshini Krishna Shobha

Course Project: Predicting personality traits using multimodal data

University of Stuttgart

Nov 2020 - Feb 2021

BACHELOR STUDENTS

Hossam Elfar

Thesis (Co-supervise with Mayar Alfares): Private mouse and keyboard behavioral data

German University in Cairo

Mar 2023 - Sep 2023

Manuel Schwartz

Thesis: Generalised Encoding for Mouse and Keyboard Data

University of Stuttgart

Dec 2022 - May 2023

Yun Ye

Internship: Mouse behaviour representation learning

University of Stuttgart

Apr 2023 - Jun 2023

Jiaxuan He

Thesis: Multimodal Personality Synthesis on 3D Avatars

University of Stuttgart

Sep 2021 - Mar 2022

Guo Chen

Internship: EEG-based Emotion Recognition

Tsinghua University

Oct 2018 - Oct 2019

Wanjing Chen

Internship: EEG Signal Processing

Beijing Forestry University

Jun 2019 - Oct 2019

Chenghan Wei

Internship: EEG Signal Processing

BUPT

Mar 2019 - May 2019

Academic Service

SERVICE AND OUTREACH

2023, 2021 **Co-Organiser**, Multimediatic Grand Challenge at ACM MM'23 '21

2021 **Student Volunteer**, ACM ETRA'21

REVIEWER

CHI'24 '23 '22, UIST'23, MobileHCI'23, INTERACT'23, ETRA'24 '22, VRIH

Skills

Programming: Python, C/C++, Javascript, HTML, Node.js, SQL, Matlab, Java, Pascal; LaTeX, Markdown, Bash; Qt, ActionScript; Pytorch, Keras, TensorFlow

Languages: Chinese (Native), English (C1), German (A2)