

Shuai Ma

PHD CANDIDATE · HUMAN COMPUTER INTERACTION

Clear Water Bay, Kowloon, Hong Kong

☎ (+86) 131-2696-7288 | ✉ shuai.ma@connect.ust.hk | 🏠 www.shuaima.cc

“Build responsible and effective Transparency between human and AI.”

Personal Profile

I am a 3rd year PhD candidate in HCI Lab at Hong Kong University of Science and Technology (HKUST) supervised by Prof. Xiaojuan Ma.

My research interest lies in Human-AI Interaction. I am especially interested in promoting transparent communication between humans and AI and investigating the trust issues (e.g., [trust calibration](#)) when users interact with a black-box AI. I design computational models and run empirical studies to understand users' mental models when collaborating with AI (e.g., in [AI-assisted decision-making](#), machine teaching). And I develop novel interfaces to support human-compatible human-AI collaboration through advanced techniques, such as [human-centered explainable AI](#).

Education

Hong Kong University of Science and Technology (HKUST)

Hong Kong SAR

PH.D. IN COMPUTER SCIENCE AND ENGINEERING

Sep. 2020 - June. 2024 (expected)

- HCI Lab, CSE Department. Supervisor: Xiaojuan Ma.
- HKUST Redbird PhD Scholarship recipient (40,000 HKD), Huawei PhD Fellowship recipient (270,000 HKD per year)

University of Chinese Academy of Science (UCAS)

China

M.SC. IN COMPUTER SCIENCE AND TECHNOLOGY

Sep. 2017 - July. 2020

- HCI Lab, Institute of Software, Chinese Academy of Science. Supervisor: Feng Tian.
- National Graduate Scholarship recipient
- Thesis: “User Personalized Modeling Method and Application Based on Mixed-initiative Interaction”

Harbin Institute of Technology (HIT)

China

B.S. IN COMPUTER SCIENCE AND ENGINEERING

Sep. 2013 - July. 2017

- School of Computer Science.
- National Undergraduate Scholarship recipient
- Thesis: “A Mobile Based Neurological Function Evaluation System”

Industry Experience

Huawei 2012 Lab/HMI Lab

Shenzhen, China

RESEARCH INTERN, WITH DR. DAYUAN HUANG, DR. ZHENYI HE

June. 2022 - Dec. 2022

- Human-Car Interaction: Human-in-the-loop Driving Route Recommendation for Insensitive Parking Fee Payment.
- XAI in Autonomous Vehicle: Designing Conversational In-Car Explanations for Unexpected Auto-Driving Events.

Netease Youdao NLP Group

Beijing, China

NLP INTERN

Jan. 2018 - Mar. 2018

- A Language Translation Model from Classical Chinese to Modern Chinese.

LOHAS Tech (A startup company) Machine Learning Group

Beijing, China

MACHINE LEARNING INTERN

Oct. 2017 - Dec. 2017

- Healthcare in People's Daily Lives: Wave Form Recognition Model in Electrocardiogram (ECG) Signal.

Beijing Key Lab of Human-Computer Interaction at the Institute of Software, Chinese Academy of Sciences (ISCAS)

Beijing, China

STUDENT RESEARCHER

Sep. 2016 - June. 2017

- Old Adults' Neurological Functions Evaluation Model and Early-Intervention Design.

Publications

Manuscripts and Pre-prints

- 2022** M.1 **Shuai Ma**, Xiaojuan Ma. [Towards Human-centered Design of Explainable Artificial Intelligence \(XAI\): A Survey of Empirical Studies.](#) (in submission)

Peer-reviewed Conference and Journal Publications

- 2022** J.1 **Shuai Ma**, Mingfei Sun, Xiaojuan Ma. **Modeling Adaptive Expression of Robot Learning Engagement and Exploring its Effects on Human Teachers**. In *ACM Transactions on Computer-Human Interaction*. (**TOCHI 2022**).
- C.1 **Shuai Ma**, Taichang Zhou, Fei Nie, Xiaojuan Ma. **Glancee: An Adaptable System for Instructors to Grasp Student Learning Status in Synchronous Online Classes**. In *The ACM CHI Conference on Human Factors in Computing Systems*. (**CHI 2022**).
- 2021** C.2 Liuping Wang, Dakuo Wang, Feng Tian, Zhenhui Peng, Xiangmin Fan, Zhan Zhang, **Shuai Ma**, Mo Yu, Xiaojuan Ma, Hongan Wang. **CASS: Towards Building a Social-Support Chatbot for Online Health Community**. In *The 26th ACM Conference On Computer-Supported Cooperative Work And Social Computing*. (**CSCW 2021**).
- 2019** C.3 **Shuai Ma**, Zijun Wei, Feng Tian, Xiangmin Fan, Jianming Zhang, Xiaohui Shen, Zhe Lin, Jin Huang, Radomir Mech, Dimitris Samaras, and Hongan Wang. **SmartEye: Assisting Instant Photo Taking via Integrating User Preference with Deep View Proposal Network**. In *The ACM CHI Conference on Human Factors in Computing Systems*. (**CHI 2019**). 🏆 Honorable Mention Award

Posters, Extended Abstracts, Workshop Papers

- 2019** W.1 Qian Zhu, **Shuai Ma**. **What Did I Miss? Assisting User adaptive Missed Content Reviewing in MOOC Learning**. In *The Adjunct Publication of the 32nd Annual ACM Symposium on User Interface Software and Technology*. (**UIST 2019 Adjunct**).
- W.2 Qian Zhu, **Shuai Ma**, Cuixia Ma. **Pre-screen: Assisting Material Screening in Early-stage of Video Editing**. In *The Adjunct Publication of the 32nd Annual ACM Symposium on User Interface Software and Technology*. (**UIST 2019 Adjunct**).
- W.3 Yunzhi Li, Liuping Wang, **Shuai Ma**, Xiangmin Fan, Zijun Wang, Junfeng Jiao, and Dakuo Wang. **Human-AI Interaction in Healthcare: Three Case Studies About How Patient(s) And Doctors Interact with AI in a Multi-Tiers Healthcare Network**. In *The ACM CHI Conference on Human Factors in Computing Systems (Workshop Paper)*. (**CHI 2019 Workshop**).
- 2018** W.4 Jing Gao, Feng Tian, Junjun Fan, Dakuo Wang, Xiangmin Fan, Yicheng Zhu, **Shuai Ma**, Jin Huang, and Hongan Wang. **Implicit Detection of Motor Impairment in Parkinson's Disease from Everyday Smartphone Interactions**. In *The ACM CHI Conference on Human Factors in Computing Systems (Late Breaking Work)*. (**CHI LBW 2018**).
- W.5 Liuping Wang, Xiangmin Fan, Feng Tian, Lingjia Deng, **Shuai Ma**, Jin Huang, and Hongan Wang. **mirrorU: Scaffolding Emotional Reflection via In-Situ Assessment and Interactive Feedback**. In *The ACM CHI Conference on Human Factors in Computing Systems (Late Breaking Work)*. (**CHI LBW 2018**).

Patent

- 2019** PT.1 Feng Tian, Jin Huang, Lixin Zhou, Yicheng Zhu, **Shuai Ma**, Hongan Wang. **A Gait Recognition Method and System for Target User in Daily Environment**. Filed: 2019-01-10. Patent No. CN 2019100216329.

Selected Honors and Awards

- 2022** CHI 2022 Student Volunteer Award
Special Recognition for Outstanding Reviews
- 2020** HKUST Redbird PhD Scholarship (40,000 HKD)
Huawei PhD Fellowship (270,000 HKD/year)
- 2019** President Scholarship in Chinese Academy of Sciences (only 1%)
Honorable Mention Award at ACM CHI 2019
Excellent Paper Award at the Annual Academic Conference of ISCAS
- 2018** National Scholarship for Graduate (only 1%)
First-Class Scholarship in UCAS
- 2017** Excellence Award for Science Creation Program of Chinese Academy of Sciences
Special Scholarship for Undergraduates & Top 10 students of HIT (only 0.1%)
Excellent Graduates (first-class honor) in Harbin Institute of Technology
- Before 2016** National Scholarship for Undergraduate (only 1%)
First-Class Scholarship in HIT (2014, 2015, 2016)

Competitions

- 2021** Natural Language Processing with Disaster Tweets **Rank: top 1%**
- 2018** Huawei Cup Free Software Programming Competition 🏆 *Winner*
 The 6th Emotion Recognition in the Wild Challenge (EmotiW 2018, held by ACM ICMI 2018). Audio-video Emotion Recognition
Rank: top 10%
 WAD Video Segmentation Challenge (held by IEEE/CVF CVPR 2018). Semantic Segmentation and Recognition of Road Vehicles
Rank: 4th /141 teams
- 2016** The 5th National Marine Vehicle Design and Manufacturing Competition 🏆 *Winner*
 The 18th National Robot Championship (as team leader) 🏆 *Winner*

Teaching Experience

Teaching Assistant

- 2021** COMP 1021 Introduction to Computer Science (Hong Kong University of Science and Technology)
2020 COMP 1021 Introduction to Computer Science (Hong Kong University of Science and Technology)

Guest Lecture

- 2019** Introduction to Natural User Interfaces (Beijing Zhongguancun No.1 Primary School)
2018 Introduction to Natural User Interfaces (Beijing Science and Innovation Open Day)

Mentoring Experience

Advisees

- 2022** Elin (Undergraduate student from KTH, Sweden, *co-advisor: Xiaojuan Ma*)
 Ying Lei (Undergraduate student from East China Normal University, *co-advisor: Xiaojuan Ma*)
- 2021** Fei Nie (Undergraduate student from HKUST, *co-advisor: Xiaojuan Ma*), currently master student at CMU HCII
 Taichang Zhou (Undergraduate student from HKUST, *co-advisor: Xiaojuan Ma*)

Professional Service

Paper Reviewing

- 2019-2023** ACM CHI 2019-2023, UIST 2022, CHI EA 2022, WWW 2021, CCF Transactions on Pervasive Computing and Interaction
 🏆 *Special recognition for outstanding review ACM CHI*

Community Service

- 2022** Student Volunteer, for ACM CHI 2022
 🏆 *Student Volunteer Award*
- 2019** Web Master, for CHI 2019 Workshop - *HCI in China: Research Agenda, Education Curriculum, Industry Partnership, and Communities Building*
 Student Volunteer, for CHI 2019 *China Night*
 Volunteer, for teaching HCI courses at CCF Rural Education in Lvliang, Shanxi, China

Skills

- Programming** Language: Python, HTML, Javascript, C#, Java
 Toolkit: Pytorch, Tensorflow, Scikit-learn, Numpy, Matplotlib, Flask, Apache, MySQL
- User Research** User Study Design (between/within) with Mixed methods (Quantitative and Qualitative method), Participatory Design, Survey, Interview, Formative Study, etc.
- Data Analysis** Statistical Analysis (both parameter and non-parameter tests), Qualitative Coding, Thematic Analysis
- AI Practice** Experience with popular Natural Language Processing models (including LLMs), Computer Vision models, and Reinforcement Learning algorithms.
- Others** Robot Operation System (ROS), Unity, Web development, Microsoft Powerpoint, Excel, Adobe Illustrator