Chao Zhang

HCI Researcher | UX Designer

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Research Interests

Human-Computer Interaction (HCI), Computer-Supported Cooperative Work & Social Computing (CSCW), Human-AI Collaboration, Creativity Support, Decision-Making, Educational Technology, Interactive Storytelling, Design

Education

Cornell University, Ithaca, New York, United States *09/2023 - 06/2028 (expc.)*

Ph.D. in Information Science

Zhejiang University, Hangzhou, China *09/2020 - 03/2023*

M.E. in Design Engineering, GPA 3.93/4.00, advised by Prof. Cheng Yao

National Scholarship [Top 0.1%], Ministry of Education, China.

Jiangnan University, Wuxi, China *09/2016 - 06/2020*

B.E. in Electrical Engineering, minor in Digital Media Technology, GPA 3.83/4.00

National Scholarship [Top 0.1%], Ministry of Education, China.

Publications

Major Peer-reviewed Conference Papers

c.5. **Chao Zhang**, Zili Zhou, Yajing Hu, Lanjing Liu, Jiayi Wu, Yaping Shao, Jianhui Liu, Lingyan Zhang, Lijuan Liu, Hangyue Cheng, Fangtian Ying, and Cheng Yao. 2023. Observe It, Draw It: Scaffolding Children's Observations of Plant Biodiversity with an Interactive Drawing Tool. In *Proceedings of the ACM Interaction Design and Children Conference (IDC '23).*

c.4. Shuyue Feng, Cheng Yao, Weijia Lin, Jiayu Yao, **Chao Zhang**, Zhongyu Jia, Lijuan Liu, Masulani Bokola, Hangyue Chen, Fangtian Ying, and Guanyun Wang. 2023. MechCircuit: Augmenting Laser-cut Objects with Integrated Electronics, Mechanical Structures and Magnets. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23).*

c.3. Qingyu Guo, **Chao Zhang**, Hanfang Lyu, Zhenhui Peng, and Xiaojuan Ma. 2023. What Makes Creators Engage with Online Critiques? Understanding the Role of Artifacts' Creation Stage, Characteristics of Community Comments, and their Interactions. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23).*

c.2. Wenjie Xu, Jiayi Ma, Jiayu Yao, Weijia Lin, **Chao Zhang**, Xuanhe Xia, Nan Zhuang, Shitong Weng, Xiaoqian Xie, Shuyue Feng, Fangtian Ying, Preben Hansen, and Cheng Yao. 2023. MathKingdom: Teaching Children Mathematical Language through Speaking At Home via a Voice-guided Game. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23).*

c.1. **Chao Zhang**, Cheng Yao, Jiayi Wu, Weijia Lin, Lijuan Liu, Ge Yan, and Fangtian Ying. 2022. StoryDrawer: A Child–AI Collaborative Drawing System to Support Children's Creative Visual Storytelling. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22)*.

Minor Lightly-Reviewed Posters, Extended Abstracts, and Workshop Papers

p.5. Ge Yan, **Chao Zhang**, Jiadi Wang, Zheng Xu, Jianhui Liu, Jintao Nie, Fangtian Ying, and Cheng Yao. 2022. CamFi: An AI-driven and Camera-based System for Assisting Users in Finding Lost Objects in Multi-Person Scenarios. In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (CHI EA' 22)*.

p.4. Ge Yan, Cheng Yao, **Chao Zhang**, Jiadi Wang, Yuqi Hu, and Fangtian Ying. 2022. MusicCollage: A Music Composition Tool for Children Based on Synesthesia and a Genetic Algorithm. In *Proceedings of the 2022 International Conference on Human-Computer Interaction (HCII' 22)*.

p.3. **Chao Zhang**, Zili Zhou, Jiayi Wu, Yajing Hu, Yaping Shao, Jianhui Liu, Yuqi Hu, Fangtian Ying, and Cheng Yao. 2021. Bio Sketchbook: An AI-assisted Sketching Partner for Children's Biodiversity Observational Learning. In *Extended Abstracts of the ACM Interaction Design and Children Conference (IDC EA'21)*.

p.2. **Chao Zhang**, Cheng Yao, Jianhui Liu, Zili Zhou, Weilin Zhang, Lijuan Liu, Fangtian Ying, Yijun Zhao, and Guanyun Wang. 2021. StoryDrawer: A Co-Creative Agent Supporting Children's Storytelling through Collaborative Drawing. In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (CHI EA' 21)*.

p.1. Muling Huang, Lingyan Zhang, Lijuan Liu, Pinqi Zhu, **Chao Zhang**, Pitchayapat Sonchaeng, Weiqiang Ying, Pinhao Wang, Yuqi Hu, Fangtian Ying, and Cheng Yao. 2021. ColorGuardian: Customize Skin Tattoos for Children with Vitiligo. In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (CHI EA' 21)*.

Journal Articles

j.2. Yang Chen, Katherine Fennedy, Anna Fogel, Shengdong Zhao, **Chao Zhang**, Lijuan Liu, and Chingchiuan Yen. 2022. SSpoon: A Shape-changing Spoon That Optimizes Bite Size for Eating Rate Regulation. *ACM Journal on Interactive, Mobile, Wearable and Ubiquitous Technologies*. 6, 3, 105:1-105:32.

j.1. Lijuan Liu, Jiahao Guo, **Chao Zhang**, Zhangzhi Wang, Pinqi Zhu, Tuo Fang, Junwu Wang, Cheng Yao, and Fangtian Ying. 2021. ElectroPaper: Design and Fabrication of Paper-Based Electronic Interfaces for the Water Environment. *Electronics*. 10, 5, 604.

Under Review Manuscripts

m.3. Anonymous Authors (**as the Co-First Author**). 2024. From Design Transparency to Malleable Interfaces: Exploring End-User Personalization for Website Design Dark Patterns [title modified to ensure blind review]. In *CSCW '23. Major Revision.*

m.2. Anonymous Authors (**as the First Author**). 2024. Using Large Language Models to Support Mathematical Language Learning through Joint Storytelling [title modified to ensure blind review]. *Submitted to CHI '24.*

m.1. Anonymous Authors (**as the Co-First Author**). 2024. Unpacking Chinese Adolescent Smartwatch-based Socialization [title modified to ensure blind review]. *Submitted to CHI '24.*

Selected Design Awards & Exhibitions

Design Awards

a.8. **Red Dot Award: Design Concept**, Red Dot Award, Germany. *2023*

a.7. **A' Design Iron Award**, A' Design Award, Italy. [Link] *2022*

a.6. **iF Talent Award**, iF Design Award, Germany. [Link] *2021*

a.5. **DIA Honorable Mention**, Design Intelligence Award (DIA), China. [Link] *2021*

a.4. **C4-AI Outstanding Winner** (Top 1), C4-AI Innovation Contest, China. *2021*

a.3. **Outstanding Winner** (Top 10), China Graduate AI Innovation Competition, China. *2021*

a.2. **UXDA Finalist** (Top 20), User Experience Design Award (UXDA), China. *2021*

a.1. **IDC Nominations Award**, International Designer Club (IDC) Award, Malaysia. *2021*

Design Exhibitions

e.3. **China Design Exhibition**, China. *2022*

e.2. **Global Grad Show**, Dubai Design Week, The United Arab Emirates. [Link.1] [Link.2] *2021*

e.1. **"Ecological Bridge" Innovative Design Exhibition**, China. *2021*

Patents & Software Copyrights

p.3. A Drawing System to Support Children's Observation of Plants and Learning about Biodiversity. 2021. *China National Invention Patent.* Application No. 202110645869.1

p.2. A Sketch Recognition and Generation Method based on Raspberry Pi and Recurrent Neural Network. 2020. *China National Invention Patent.* Application No. 202011322789.4

p.1. A Sentiment Analysis and Visualization Method Combining Video and Pop-Ups. 2019. *China National Invention Patent.* Application No. 201910287517.6

sc.1. Enterprise Network Opinion Analysis and Visualization Software. 2019. *China Software Copyright.* Registration No. 2019SR0428088

Selected Honors & Scholarships

h.3. **National Scholarship** (Top 0.1%), Ministry of Education, China. *2022, 2021, 2018*

h.2. **Valedictorian**, School of IOT, Jiangnan University, China. *2020*

h.1. **Jiangnan Talent** (Only 10 awardees in Jiangnan University), Jiangnan University, China. *2019*

Research Experience

Visiting Researcher, Converse to Learn Lab, University of Michigan, USA *01/2023 - 09/2023*

Advised by Prof. Ying Xu

Visiting Researcher, SaNDwich Lab, University of Notre Dame, USA *06/2022 - 01/2023*

Advised by Prof. Toby Jia-jun Li and Prof. Yaxing Yao (Virginia Tech)

Research Intern, HCI Lab, Hong Kong University of Science and Technology, China *06/2022 - 09/2022*

Advised by Prof. Xiaojuan Ma

Research Intern, HCI Lab, OPPO Research Institute, China *01/2022 - 04/2022*

Mentored by Dr. Yilei Shi and Dr. Haimo Zhang

Research Associate, INNO Lab, Zhejiang University, China *06/2020 - 3/2023*

Advised by Prof. Cheng Yao and Prof. Fangtian Ying

Teaching Experience

CST 5141081 Interaction Technology and Design Practice, Teaching Assistant, ZJU *Spring 2021*

CST 5143104 Design Engineering, Teaching Assistant, ZJU *Autumn 2020*

CST 2521018 Frontier of Engineering Technology, Teaching Assistant, ZJU *Autumn 2020*

Oral Presentations

Presenting Author, IDC 2023, Virtual Event *06/2023*

Invited Talk, Design Innovation Center, China Academy of Art *04/2022*

Topic: Entanglement of Design and Technology

Invited Talk, Industrial Design Institution, Chinese Mechanical Engineering Society *04/2022*

Topic: Entanglement of Design and Technology

Presenting Author, CHI 2022, Virtual Event *03/2022*

Presenting Author, IDC 2021, Virtual Event *06/2021*

Presenting Author, CHI 2021, Virtual Event *03/2021*

Academic Services

Paper Reviewing: CSCW 2023, IDC 2023, CHI 2023 (LBW AC), IDC 2022, CHI 2022, ChinaVis 2022, Chinese CHI 2022, Chinese CHI 2021

Skills

Research: Interview, Survey, Participatory Design, Experimental Design, Thematic Analysis, LaTeX

Design: User Experience Design (Figma, Sketch), 3D Modelling and Rendering (Cinema 4D, Corona Render, Rhino 3D), Generative Design (P5, Processing, Grasshopper), Graphic Design (Adobe Products)

Computing: Front-End Development (Javascript, HTML, CSS, Vue.js), Statistics Analysis (Matplotlib, Numpy, Pandas, SPSS, JASP), and Machine Learning (Sklearn, PyTorch, Tensorflow)

Prototyping: 3D Printing, Laser Cutting, Fabrication and Hardware Assembly, Basic Circuit Design