

Chao Zhang

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RESEARCH INTERESTS

Human-Computer Interaction (HCI), Human-AI Collaboration, Creativity, Storytelling, Authoring Tool, Education Technology, Social Computing, 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

* *Equal Contribution*

Major Peer-reviewed Conference and Journal Papers

- C.9. Yuwen Lu*, **Chao Zhang***, Yaxing Yao, and Toby Jia-Jun Li. 2023. From Awareness to Action: Exploring End-User Empowerment Interventions for Dark Patterns in UX. Accepted by *Proceedings of the ACM on Human-Computer Interaction (CSCW' 23)*.
- C.8. Zihan Yan, Yanhong Wu, Danli Luo, **Chao Zhang**, Qihang Jin, Wei Chen, Yingcai Wu, Xiang “Anthony” Chen, Guanyun Wang, and Haipeng Mi. 2023. NaCanva: Exploring and Enabling the Nature-inspired Creativity for Children. In *Proceedings of the ACM on Human-Computer Interaction (MobileHCI '23)*.
- C.7. **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.6. 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.5. Wenjie Xu, Jiayi Ma, Jiayu Yao, Weijia Lin, **Chao Zhang**, Xuanhe Xia, Nan Zhuang, Shitong Weng, Xiaojian 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.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. **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)*.
- C.2. Yang Chen, Katherine Fennedy, Anna Fogel, Shengdong Zhao, **Chao Zhang**, Lijuan Liu, and Chingchuan 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.
- C.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.

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 (HCI' 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)*.

Under Review Manuscripts

- 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

- PT.3. A Drawing System to Support Children's Observation of Plants and Learning about Biodiversity. 2021. *China National Invention Patent*. Application No. 202110645869.1
- PT.2. A Sketch Recognition and Generation Method based on Raspberry Pi and Recurrent Neural Network. 2020. *China National Invention Patent*. Application No. 202011322789.4
- PT.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 - 03/2023

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