

# Chao Zhang

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## RESEARCH INTERESTS

**Human-Computer Interaction (HCI), Human-AI Collaboration, Social Computing, Creativity Support, Education Technology, Storytelling, Sensemaking**

## EDUCATION

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

*Ph.D. in Information Science, advised by Prof. Jeff Rzeszutarski*

**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.11. **Chao Zhang**, Xuechen Liu, Katherine Ziska, Soobin Jeon, Chi-Lin Yu, and Ying Xu. 2024. Mathemyths: Leveraging Large Language Models to Teach Mathematical Language through Child-AI Co-Creative Storytelling. Accepted by *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24)*.
- C.10. Lanjing Liu\*, **Chao Zhang\***, and Zhicong Lu. 2023. Wrist-bound Guanxi, Jiazu, and Kuolie: Unpacking Chinese Adolescent Smartwatch-Mediated Socialization. Accepted by *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24)*.
- 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, Xiaolian 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**<sup>\*</sup>, Cheng Yao<sup>\*</sup>, 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 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.
- 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**<sup>\*</sup>, Cheng Yao<sup>\*</sup>, 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)*.

## SELECTED DESIGN AWARDS & EXHIBITIONS

### Design Awards

- A.9. **James Dyson Award National Runner-up**, Dyson Limited, United States. [\[Link\]](#) 2023
- 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.5. **Special Recognition for Paper Reviews**, CHI 2024. 2024
- H.4. **Special Recognition for Paper Reviews**, CSCW 2023. 2023
- 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*

<b>Visiting Researcher</b> , SaNDwich Lab, University of Notre Dame, USA	06/2022 - 01/2023
<i>Advised by Prof. Toby Jia-jun Li and Prof. Yaxing Yao (Virginia Tech)</i>	
<b>Research Intern</b> , HCI Lab, Hong Kong University of Science and Technology, China	06/2022 - 09/2022
<i>Advised by Prof. Xiaojuan Ma</i>	
<b>Research Intern</b> , HCI Lab, OPPO Research Institute, China	01/2022 - 04/2022
<i>Mentored by Dr. Yilei Shi and Dr. Haimo Zhang</i>	
<b>Research Associate</b> , INNO Lab, Zhejiang University, China	06/2020 - 03/2023
<i>Advised by Prof. Cheng Yao and Prof. Fangtian Ying</i>	

## TEACHING EXPERIENCE

<b>INFO 4430 Teams and Technology</b> , Teaching Assistant, Cornell	Fall 2023
<b>CST 5141081 Interaction Technology and Design Practice</b> , Teaching Assistant, ZJU	Spring 2021
<b>CST 5143104 Design Engineering</b> , Teaching Assistant, ZJU	Fall 2020
<b>CST 2521018 Frontier of Engineering Technology</b> , Teaching Assistant, ZJU	Fall 2020

## ORAL PRESENTATIONS

<b>Presenting Author</b> , IDC 2023, Virtual Event	06/2023
<b>Invited Talk</b> , Design Innovation Center, China Academy of Art	04/2022
<i>Topic: Entanglement of Design and Technology</i>	
<b>Invited Talk</b> , Industrial Design Institution, Chinese Mechanical Engineering Society	04/2022
<i>Topic: Entanglement of Design and Technology</i>	
<b>Presenting Author</b> , CHI 2022, Virtual Event	03/2022
<b>Presenting Author</b> , IDC 2021, Virtual Event	06/2021
<b>Presenting Author</b> , CHI 2021, Virtual Event	03/2021

## ACADEMIC SERVICES

**Program Committee:** CHI 2024 (LBW AC), CHI 2023 (LBW AC)

**Paper Reviewing:** CHI 2024, CSCW 2023, IDC 2023, CHI 2023, 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, React.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