Jiayi Zhou

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Education

Zhejiang University Hangzhou, China
B.Eng. in Industrial Design *Sept. 2020 – Jun. 2024 (expected)*
GPA: Overall 3.94/4.00

Research Interests

My research interests lie broadly in **Data Visualization**, **Human-Computer Interaction (HCI)**, and **Human-AI Collaboration**. I also explore **Data-driven Art** and **Data Storytelling** with a focus on humanities.

Research Experience

Interactive Data Group (IDG), Zhejiang University Hangzhou, China
Research Assistant, Advisor: Prof. Yingcai Wu *Mar. 2022 – Present*

- **Understanding Nonlinear Collaboration between Human and AI Agents: A Co-design Framework for Creative Design**
  - Conducted a formative study to investigate the co-design process between humans and formulated a set of guidelines for human-AI co-design frameworks.
  - Proposed a human-AI co-design framework and developed a proof-of-concept prototype.
  - Conducted a comparative study to understand our framework and demonstrate the usability of the prototype.
- **Rigel: Transforming Tabular Data By Declarative Mapping**
  - Assisted in system design, optimization, and evaluation of Rigel, an expressive and user-friendly data transformation system that addresses the disambiguation and exploration issues based on the declarative mapping approach.
  - Proofread the paper and revised figures in the paper.
- **A Comparative Study on Fixed-order Event Sequence Visualizations: Gantt, Extended Gantt, and Stringline Charts**
  - Assisted in conducting two experiments to evaluate the effectiveness of Gantt charts, extended Gantt charts, and stringline charts in visualizing scheduled event sequence data.
  - Assisted in summarizing design suggestions for choosing appropriate charts.
- **An Investigation into the Art of Scrolling**
  - Assisted in summarizing several design dimensions of scrollytelling by analyzing existing examples.
  - Proofread the paper and revised figures in the paper.

Guanyun Lab, Zhejiang University Hangzhou, China
Research Assistant, Advisor: Prof. Guanyun Wang *Oct. 2021 – Mar. 2022*

- **Shoes++: A Smart Detachable Sole for Social Foot-to-foot Interaction**
  - Provided a comprehensive input vocabulary of foot-to-foot gestures, which was informed by a focus group co-design.
  - Prototyped an IMU-mounted sole that can easily adapt to various shapes of shoes, enabling 'walk up and use' of our system in most social situations.
  - Validated the wearability of Shoes++ in a daily work setting and summarized findings to guide future work.

Publications and Manuscripts

[1] **Jiayi Zhou**, Renzhong Li, Junxiu Tang, Tan Tang, Haotian Li, Weiwei Cui, Yingcai Wu. 2024. "Understanding Nonlinear Collaboration between Human and AI Agents: A Co-design Framework for Creative Design". In *Proceedings of the CHI Conference on Human Factors in Computing Systems* (CHI'24), accepted for presentation. arXiv:2401.07312

[2] Junxiu Tang, Fumeng Yang, Jiang Wu, Yifang Wang, **Jiayi Zhou**, Lingyun Yu, Yingcai Wu. 2023. "A Comparative Study on Fixed-order Event Sequence Visualizations: Gantt, Extended Gantt, and Stringline Charts". *IEEE Transactions on Visualization and Computer Graphics* (TVCG), accepted with no further changes.

[3] Ran Chen, Di Weng, Yanwei Huang, Xinhuan Shu, **Jiayi Zhou**, Guodao Sun, Yingcai Wu. 2022. "Rigel: Transforming Tabular Data by Declarative Mapping". In *IEEE Transactions on Visualization and Computer Graphics* (TVCG), Proceedings of *IEEE Visualization and Visual Analytics Conference* (VIS'22). doi:10.1109/TVCG.2022.3209385.

[4] Zihan Yan, **Jiayi Zhou**, Yufei Wu, Guanhong Liu, Danli Luo, Zihong Zhou, Haipeng Mi, Lingyun Sun, Xiang 'Anthony' Chen, Ye Tao, Yang Zhang, and Guanyun Wang. 2022. "Shoes++: A Smart Detachable Sole for Social Foot-to-foot Interaction". In Proceedings of *the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies* (IMWUT'22). doi:10.1145/3534620.

Selected Art Projects

These Data-driven Art and Data Storytelling were submitted to IEEE VIS Art Program, and are currently in preparation for ACM SIGGRAPH Art Papers, IEEE VIS Art Program, and The Information is Beautiful Awards.

- **The Imprints of My Existence** [3D Model] [PDF]
  Jiayi Zhou, Ruibo Zhu, Funing Ge, Sining Chen, Xiaojiao Chen, Tan Tang
  - The 3D visualization represents the data obtained from 447 paper receipts collected from 2020-2023 in order to trace personal memories and life patterns in different phases of life.
- **Presence with Generation Loss** [Video] [PDF]
  Junxiu Tang, **Jiayi Zhou**, Peiquan Xia, Yifang Wang, Xinhuan Shu, Xiaojiao Chen, Tan Tang, Yingcai Wu
  - This big-screen project explores the concept of generation loss in data propagation, focusing on the interplay between image and text modalities.
- **Imagination to the Universe: Mingling the Ancient and the Present** [Website] [PDF]
  Junxiu Tang, Yifang Wang, **Jiayi Zhou**, Xinhuan Shu, Tan Tang, Huaming Qu, Yingcai Wu
  - This series of works unscramble the Chinese's everlasting exploration of the universe based on a triple Mingling Space in Augmented Reality (AR).

Selected Awards and Honors

'Four-star' Volunteer, Zhejiang University	*2023*
Exemplar of Public Service, Zhejiang University	*2021, 2022, 2023*
Zhejiang Province Government Scholarship (top 5%)	*2023*
Scholarship for Outstanding Students, Zhejiang University (top 8%)	*2023*
The Most Inspiring Design, Campus Asia Social Design Initiative Workshop	*2022*

Skills

Design	Figma, Adobe Creative Suite, Rhino, Blender
Research	Interview, Survey, Participatory Design
Prototyping	3D Printing, Laser Cutting, Fabrication and Hardware Assembly, Circuit Design
Programming	C, C++, Python, HTML, CSS, JavaScript, React
Languages	Mandarin (native), English (proficient)
Hobbies	Graphic Design, Photography, Travelling, Running, Pickleball, Frisbee