Ruishi Zou

Curriculum Vitæ

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Research Statement

My research interest is designing mix-initiative systems to enhance human (lay users and domain experts) capabilities through interacting with AI technologies (NLP, CV, etc.). I approach human-AI interaction by exploring the design of information-based interfaces powered by AI's knowledge representation capabilities. I hope to contribute to research fields in HCI such as visualization and user interface software and technology through technical and empirical methods.

Education

2020–2024 **B.E. in Computer Science and Technology**, Tongji University, Shanghai, China.
GPA: 4.69/5 (Equivalent to 91.86/100)

Publications

[P.3] **More Samples or More Prompt Inputs? Exploring Effective In-Context Sampling for LLM Few-Shot Prompt Engineering**.
Bingsheng Yao; Guiming Chen; Ruishi Zou; Yuxuan Lu; Jiachen Li; Shao Zhang; Sijia Liu; James Hendler; Dakuo Wang
In Submission. DOI: 10.48550/arXiv.2311.09782.

[P.2] **iTutor: A Generative Tutorial System for Teaching the Elders to Use Smartphone Applications**.
Ruishi Zou; Zi Ye; Chen Ye.
ACM UIST 2023 Adjunct *(Poster Extended Abstract)*
GitHub: Motion115/iTutor. Project: motion115.github.io/iTutor. DOI: 10.1145/3586182.3616663.

[P.1] **Chart2Vec: A Universal Embedding of Context-Aware Visualizations**.
Qing Chen; Ying Chen; Ruishi Zou; Wei Shuai; Yi Guo; Jiazhe Wang; Nan Cao.
Under review at ***IEEE Transactions on Visualization and Computer Graphics*** *(2024)*
GitHub: idvxlab/chart2vec. Project: chart2vec.idvxlab.com. DOI: 10.48550/arXiv.2306.08304 (Before revision).

Professional Experience

2023.10 - Present **Research Assistant**, Human-Centered AI Lab, **Northeastern University**, Remote
Advisor: Prof. Dakuo Wang
- **In-Context Sampling [P.3]**: Conducted experiments to benchmark the In-Context Sampling (ICS) strategy on various large language models and tasks; Implemented sampling strategy used with ICS.

2023.4 - Present **Research Assistant**, Student Innovation Center of CEIE, **Tongji University**, Shanghai, China
Advisor: Prof. Chen Ye
- **iTutor: A Generative Tutorial System for Teaching the Elders to Use Smartphone Applications [P.2]**: Proposed a method leveraging large language models that support UI image-to-instruction generation to facilitate elders in using smartphone applications; Coordinated a team of four to participate in the *China Collegiate Computing Contest - HCI Innovation Competition 2023* and was awarded third prize.

2023.4 - 2023.10 **Research Intern**, Computer Music Group, **Carnegie Mellon University**, Remote
Advisor: Prof. Roger B. Dannenberg
- **Music Patterns and Music Models**: Explored using neural networks to perform order selection across various orders of Markov models; Slightly outperformed the best single model benchmark.

2022.3 - 2023.9 **Research Intern**, Intelligent Big Data Visualization Lab, **Tongji University**, Shanghai, China
Advisor: Prof. Qing Chen and Prof. Nan Cao
- **Chart2Vec: A Universal Embedding of Context-Aware Visualizations [P.1]**: Assisted in the training and evaluation (quantitative and qualitative) of the Chart2Vec model, a context-aware representation learning model for chart specifications that could support various applications such as visualization recommendation.
- **Chart2Vec Production Deployment** (2023.7 - 2023.9, AntV Team, **Ant Group**, Shanghai, China)

Selected Projects

[SP.3] 2023.3 - 2023.6 **UI2Vec: A Multimodal Embedding Method for Robust UI Classification**
Venue: Multimedia Course Project
Advisor: Prof. Hanli Wang, Tongji University
GitHub: Motion115/UI2Vec. Report: Technical Report (Chinese)

[SP.2] 2022.9 - 2022.12 **Forest Orchestra – Interactive Conducting Game for Music Education**
Venue: *China Collegiate Computing Contest - HCI Innovation Competition 2022*
Advisor: Prof. Yinan Zhang, Tongji University

[SP.1] 2022.5 - 2023.3 **Data-driven Approach on Identifying Systemic Financial Risk**
Venue: Student Innovation Training Program (2022 - 2023 Academic Year)
Advisor: Prof. Dawei Cheng, Tongji University

Awards and Honors

2023 **Undergraduate Academic Star** of College of Electronic and Information Engineering, Tongji University, 2023

2023 **Third Price**, China Collegiate Computing Contest - HCI Innovation Competition 2023
(top 3%, 16 - 38 out of 1,388 entries) [SP.4]

2022 **Third-Class Scholarship**, Tongji University Outstanding Student Scholarship, 2021 - 2022 Academic Year

2022 **"Award in Creativity"**, China Collegiate Computing Contest - HCI Innovation Competition 2022
(top 4%, 39 - 41 out of 1,170 entries) [SP.2]

2021 **First-Class Scholarship**, Tongji University Outstanding Student Scholarship, 2020 - 2021 Academic Year

Skills

English Skills
TOEFL 108/120 (Reading 30, Listening 29, Speaking 24, Writing 25)
GRE 327/340 (Verbal Reasoning 159/170, Quantitative Reasoning 168/170, Analytical Writing 4/6)

Practical Skills
Programming Languages: Python, JavaScript/TypeScript, HTML, C/C++, LaTeX
Libraries/Platforms (progressively learning): React, d3.js, PyTorch