

Xiucheng “Andy” Zhang

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Education Background

Sun Yat-sen University 09/2021 -- 06/2025

- Degree: Bachelor of Engineering; Major: Artificial Intelligence
- Overall GPA: 3.8 / 4

Research Experience

Visiting Intern at the Hong Kong University of Science and Technology,
Computational Cognitive Architecture with Awareness of Real-world Contexts for Affordance-based Task Planning 05/2023 -- 09/2024

Supervisor: [Prof. Xiaojuan Ma](#)

- We develop a social acceptable agent designed to function as an assistant to humans in home settings. A knowledge graph is employed to model people's common sense understanding of affordance, with additional designs integrated to incorporate real-world context into consideration. The agent's strengths lie in its foundation on a computational cognitive architecture and its high level of transparency. This work is intended for submission to CHI 2025.
- Responsibilities:
 - Being involved in most phases of the project, including idea evaluation, user study design, tool implementation, and paper writing.
 - Specific responsibilities included integrating knowledge graphs with LLMs for planning complex physical tasks, designing baselines for household agents based on VLMs, etc..

Team member, Health Knowledge Q&A Chatbot based on Community Data 05/2023 -- 09/2024
Supervisor: [Prof. Zhenhui Peng](#)

- We develop a community data-based chatbot to assist disease sufferers or potential patients in learning relevant knowledge. We collaborate with medical experts and conducted a field study focusing on colorectal cancer as an example. This work is intended for submission to CHI 2025.
- Responsibilities:
 - Community data crawling.
 - Building a chatbot based on the RAG architecture for community colorectal cancer data, which serves as the main functional implementation of the research work, will also be used as a free Q&A module in the upcoming mini-program.

Team Leader, Diagnosing User's Perceived Usability of Mobile Apps Based on Screen Recordings of Users' Operations 10/2023 -- 04/2024
Supervisor: [Prof. Zhenhui Peng](#)

- In this work, we design, develop, and evaluate an interactive tool named *DesignWatch* to help designers diagnose the usability of mobile apps based on screen recording of users' operations. *DesignWatch* supports interactive visual analyses of multiple users' operation paths in the app, prompts GPT-4(V) to simulate users' thoughts during each operation.
- We conduct a data collection experiment and developed a deep learning model to predict the usability scale survey results based on user screen recordings from usability testing.
- Responsibilities:
 - Planned and implemented formative research, including literature review and semi-structured interviews with design experts.
 - Implementation of tools, including organizing data collection experiments, keyframe extraction from UI-based videos, design of prompt structures, and construction of deep learning neural networks.
 - Evaluation of the tool involved conducting expert interviews with four UI/UX designers and carrying out case studies.

Team member, **Low Saturation Confidence Distribution-based Test-Time Adaptation for Cross-Domain Wide-Area Remote Sensing Image Classification** 05/2023 -- 09/2024

Supervisor: [Prof. Juepeng Zheng](#)

- We develop a test-time adaptation method (LSCD-TTA) for cross-domain large-scale remote sensing image classification. This method leverages Low Saturation Confidence Distribution, Weak Category Cross-Entropy, and Diversity Category Confidence to achieve domain adaptation without source domain data.
- Responsibilities:
 - Implemented the baseline models, conducted analysis of the experimental results, and created figures for the paper.

Professional Experience

NLP Algorithm Engineer Intern, **Shanghai Xijin Information Technology Co., Ltd.** 07/2023 -- 09/2023

- Participated in the development of a [knowledge management system](#) supported by a pre-trained large language model.
- Contributed to the preprocessing of documents by automating the conversion of file formats and implementing semantic-based text segmentation, and developed APIs.

Publication

Ziqi Pan, **Xiucheng Zhang**, Zisu Li, Zhenhui Peng, Mingming Fan, and Xiaojuan Ma[†]. *ACKnowledge: A Computational Framework for Human Compatible Affordance-based Interaction Planning in Real-world Contexts*. (CHI 2025 Under-Review)

Yiwei Yuan, Zhiqing Wang, **Xiucheng Zhang**, Yichao Luo, Shuya Lin, Yang Bai, and Zhenhui Peng[†]. *CanAnswer: A Community-Powered Conversational Agent for Learning About Colorectal Cancer*. (CHI 2025 Under-Review)

Xiucheng Zhang, Yixin Zeng*, Qichang Li*, Guanyi Chen, Qian Yao Xu, Xiaozhu Hu, and Zhenhui Peng[†] (2024). [DesignWatch: Analyzing Users' Operations of Mobile Apps Based on Screen Recordings](#). (MobileHCI 2024 Late-Breaking Work)

Yu Liang, **Xiucheng Zhang**, Juepeng Zheng[†], Haohuan Fu. [Low Saturation Confidence Distribution-based Test-Time Adaptation for Cross-Domain Wide-Area Remote Sensing Image Classification](#). (IEEE Transactions on Geoscience and Remote Sensing, Under Review)

[Patent] Hongxing Zhang, **Xiucheng Zhang** (2023). *Display Screen and System with Security Monitoring Functionality*. Publication No. CN115623170A. January 17, 2023.

Activities

Club President, **School of Artificial Intelligence Youth Media Center** 10/2022 -- 03/2024

- Wrote a script and starred in a [campus micro-film](#) themed around 'Carpe Diem', which garnered over ten thousand views across various platforms.
- During the college's robot invitation competition, led the team to several universities, to shoot promotional videos and interview contestants. Specific duties included liaising with and directing.

Skills

Technology

Python | C/C++ | SAS | Matlab

Investigation

User testing | Survey | Semi-structured interview | Thematic analysis

Languages

Mandarin (native) | English (proficient)