Ying Xu

yingxu@whut.edu.cn +86 13303189019

RESEARCH INTERESTS

Human-Computer Interaction, Human-AI Interaction and Collaboration, Human-Centered Design, Industrial Design, Social Computing, Design for Social Good, Explainable AI

EDUCATION

09/2015 – 06/2019 **Bachelor of Engineering in Industrial Design**
Wuhan University of Technology
(Rated as Class A (12/150) in the national subject evaluation)
GPA: 87.1/100 (rank 2nd in major)
Honorary Awards:
- Chinese National Scholarship (rank 1st in major, the highest level scholarship established by the central government, 2016/11)
- Pacemaker to Merit Student (2016/11)
- Advanced Individual who has won "Diligence and Studious" twice (2015/9 - 2016/6)
- Outstanding Student Cadre (2018/11)
- Outstanding Graduate (2019/6)

12/2021 – 04/2022 **Gap Year for Interdisciplinary Research**
- Self-study Computer Vision (2020.11 - 2021.9)
- Research Internship at Institute for AI Industry Research, Tsinghua University (2021.10 - 2022.4)

09/2019 – 06/2023 **Master of Philosophy in Industrial Design and Theory**
Wuhan University of Technology
GPA: 86.88/100
Honorary Awards:
- Outstanding Master's Thesis
- Qualified as a Postgraduate Candidate Exempt from the National Admission Exam (rank 2nd in major, 2015/9 - 2019/6)
- First Class Scholarship for Academic Excellence (2019-2020)
- "Zhimei Scholarship" (2019/12) of Hubei Artists Association

RESEARCHES

11/2020 – 03/2023 **Exploring AI-powered Creativity Support Tools for Industrial Design Professionals via Participatory Design**
Outstanding Master's Thesis, Institute for AI Industry Research, Tsinghua University & Wuhan University of Technology
- Researched on generative models in computer vision via online course study(CS231n,et al.) and literature reviews
- Constructed datasets and pre-trained AI models
- Designed and conducted semi-structured interviews and co-design workshops with industrial design experts
- Conducted thematic analysis after co-design workshops

- Designed AI-driven web-platform-based creativity support tool through function design, user experience journey, UI design

05/2021 – 02/2023

Wander: An AI-driven Chatbot to Visit the Future Earth (https://www.wander001.com/)

Team Member, Baidu PaddlePaddle and Wechaty AI Chatbot innovation Competition

- We designed a narrative AI chatbot on daily communication platforms (Wechat, Discord) that involved knowledge-based interactive fiction generation, style transferred images(update to diffusion model) and global coordinates(GPS) based on real-world locations
- Researched on related NLP and CV models
- Trained style transfer models (CycleGAN,et.al.)
- Designed questionnaires to quantitively analyze user experience and perceptions on interaction with AI chatbot

06/2021 – 05/2022

Chat-to-Design: AI Assisted Personalized Fashion Design

Team Member, Sinovation Ventures (Organised by Kai-Fu Lee) & Institute for AI Industry Research, Tsinghua University

- Designed a new multimodal interaction system for personlized fashion design that involved natual language understanding, large-scale language-image pretrained network, image generation and image attribute edit
- Costructed datasets containing 100+k fashion images
- Pre-trained generative networks (StyleGAN2), classifier (Resnet), image attribute edit model (Styleflow)

PROJECTS

10/2021 – 04/2022

Safety Revenue Model Research of Vehicle-Infrastructure Cooperated Autonomous Driving (VICAD) 2.0

HCI Research Intern - DISCOVER Lab, Institute for AI Industry Research, Tsinghua University

- Author member of this White Paper "Key Technologies and Developing Prospect of Vehicle Infrastucture Coorperated Autonomous Driving (VICAD) 2.0"
- Researched on pedestrian safety evaluation model in autonomous driving simulation environment via literature reviews
- Researched on simulation data synthesis and simulation image realism enhancement via literature reviews
- Researched on simulation traffic flow generation algorithms and interactive algorithms via literature reviews
- Made a report on the chapter "Sim2sim: X2X information constructing, modeling, and analyzing"
- Studied on UE4 and Carla to support setting up simulation environment

02/2022 – 04/2022

Explainable Artificial Intelligence in Autonomous Diving

HCI Research Intern - DISCOVER Lab, Institute for AI Industry Research, Tsinghua University

- Researched on Explainable AI via literature reviews
- Conducted field research on perceptions and expectations of autonomous driving drivers in the pilot operating area
- Designed user study to articulate the prediction rate and user experience of different (or combined) explanation modes

12/2021 – 04/2022

An Educational Game Kit for Children Learning Emotions
HCI Research Intern - DISCOVER Lab, Institute for AI Industry Research, Tsinghua University

- Researched on children emotional regulation and kits for children education via literature reviews
- Interviewed expert in children education about practical and theoretical experience on regulate children's emotions
- interviewed parents about their children current emotion state and their family education for children
- Conducted thematic analysis after interviews

PUBLICATIONS

12/2022

Paper in Publication
Sun, Y., **Xu, Y.,** Cheng, C., Li, Y., Lee, C., Asadipour, A. Explore the Future Earth with Wander 2.0: AI Chatbot Driven by Knowledge-base Story Generation and Text-to-image Model. Accepted by CHI Interactivity'23

Sun, Y., **Xu, Y.,** Cheng, C., Li, Y., Lee, C., Asadipour, A. *Travel with Wander in Metaverse: an AI chatbot to Visit the Future Earth.* Accepted by IEEE MMSP'22

Sun, Y., Cheng, C., **Xu, Y.,** Li, Y., Lee, C., Asadipour, A. *Wander [001]*. Accepted by SIGGRAPH Asia'22 Art Gallery

Sun, Y., Cheng, C., **Xu, Y.,** Li, Y., Lee, C., Asadipour, A. *Wander: An AI-driven Chatbot to Visit the Future Earth*. Accepted by ACM Multimedia'22 demo

Xu, Y., *Research on Application of Chinese Lacquer Material in CMF Design of Automobile Interior. Accepted by the 2022/04 issue of Art Market*

12/2022

Other Publication
Apollo, Baidu; Institute for AI Industry Research, Tsinghua University
"Key Technologies and Developing Prospect of Vehicle Infrastucture Coorperated Autonomous Driving (VICAD) 2.0"

09/2022

Writing Experience
Xu, Y., et al., "You Don’t Have to Be Perfect, Your Potential Counts Instead": Exploring How Design Professionals Co-Create with AI. Submitted to CSCW'23 but got rejected

Zhuang, W., Ye, C., Xu, Y., Mao, P., Wen, Y. Chat-to-Design: AI Assisted Personalized Fashion Design. Submitted to ACM Multimedia demo but got rejected

SKILLS

Methods
Interviews, Surveys, Participatory Design (Co-design Workshops), Qualitative Analysis (Grounded Theory, Thematic Analysis, Affinity Diagramming), User Experience Journey Maps, Storyboarding

Software
Photoshop, Adobe XD, blender, Rhino, Figma, Keyshot, UE4, Alias, Vred

Tech
Python, Deep Learning, Generative models (VAE, GAN, Image Attribute Edit), Image Classification and Segmentation, Transfer Learning

Language
Chinese, English, German(B1)

Others
Baking, Swimming, Sketching