

📍 State College ✉ yqx5322@psu.edu ☎ +1814-280-6040 🔗 Xuyk021@github.io in LinkedIn-Yunkai
📁 Design Portfolio 🎓 Google Scholar

Education

Pennsylvania State University

Aug 2024 - Now

MS in Informatics

- GPA: 4.0/4.0
- **Advisor:** Dr. Saeed Abdullah
- **Coursework:** Data Mining, Foundation of Human-centered Design, HCI Research Method, Human-centered AI

Zhejiang University

Sept 2020 - June 2024

BE in Industrial Design

- GPA: 3.97/4.0 Ranking : 6/55
- **Advisor:** Dr. Guanyun Wang, Dr. Wei Xiang
- **Coursework:** Information Product Design, Information & Interaction Design, User Experience Design

Experience

Research Internship

Notre Dame, USA

The University of Notre Dame

June 2025 - NOW

- Designed and implemented a multi-user MR interaction system (Unity, Meta XR SDK) supporting collaboration features such as collaboration tasks, task-related interaction, and condition-based experimental control.
- Authored the Related Work section on MR-mediated collaboration and coordination, synthesizing prior findings to frame research questions and hypothesis.

Research Internship

State College, USA

Pennsylvania State University

November 2024 - NOW

- Implemented a LLM-based voice assistant delivering cognition simulation therapy for people with dementia; conducted iterative prototyping and pilot prototype evaluations.
- Co-developed a voice-based cancer care intervention in collaboration with the **University of Pittsburgh Medical Center**, integrating script-based dialogue and healthcare guidelines in real-word scenarios.
- Leading a research project on multilingual therapy delivery, investigating how large language models support mental health interventions across diverse languages and cultural contexts.

Research Internship

Hangzhou, China

International Design Institute of Zhejiang University

April 2023 - April 2024

- Led an AI-based AAC tool project, responsible for system design, user study design, data collection and paper writing; co-led a 3D printing prototyping project integrating HCI and fabrication.
- Authored a CHI'24 submission as **first student author**; contributed to a UIST'24 submission as **second student author (Accepted, 26% acceptance rate)**.

Core Founder Member

Hangzhou, China

Pixel Leap

April 2022 - April 2023

- Developed a virtual companion for older adults, designing interactive motions and animations (Unity, motion capture); featured on the front page of *People's Daily*, China's leading national newspaper.

Publications

Visit my [personal website](#) or [Google Scholar](#) for more latest publications and projects.

SocializeChat: A GPT-Based AAC Tool Grounded in Personal Memories to Support Social Communication

Wei Xiang, **Yunkai Xu***, Yuyang Fang, Zhuyu Teng, Zhaoqu Jiang, BeiJia Hu, Jinguo Yang

SMC 2025, In Press. *Corresponding author.

Athena: A Conversational Book Discovery System with LLM-Powered Retrieval-Augmented Generation (RAG) and Interactive Graph Visualization

Matt Murtagh White*, **Yunkai Xu***, Nicole León*

UIST 2025 Poster, In Press. *Co-first author.

Xhair: 3D Printing Hair-like Structures with Multi-form, Multi-property and Multi-function

Guanyun Wang, Junzhe Ji, **Yunkai Xu**, Lei Ren, Xiaoyang Wu, Chunyuan Zheng, Xiaojing Zhou, Xing Tang, Boyu Feng, Lingyun Sun, Jiaji Li

UIST 2024 Full Paper.

[\[Full Paper\]](#) [🔗](#)

SocializeChat: a GPT-based AAC Tool for Social Communication Through Eye Gazing

Yuyang Fang, **Yunkai Xu**, Zhuyu Teng, Zhaoqu Jiang, Wei Xiang

Ubicomp 2023 Poster.

[\[Full Paper\]](#) [🔗](#)

Projects

Athena: A Conversational Book Discovery System

2025

- Designed and Developed a conversational book discovery system with LLM-powered retrieval-augmented generation (RAG) and interactive graph visualization, enabling users to discover books through natural language queries and explore relationships between books.
- Tools Used: Intelligent Chatbot Design and Development, User Study, Figma, Research Writing

EnvVISTA

2025

- Developed the end-to-end prototype based on NYC OpenData: implemented interactive maps and game mechanics, and prototyped LLM-driven narratives, conversational Q&A, and insight checks.
- Tools Used: Python, Data Visualization, Intelligent Chatbot Design

SocializeChat

[\[View PDF\]](#) [🔗](#) 2023

- Designed a mobile application with ChatGPT for people with physical disabilities, helping them to have fluent and engaging social conversations with others.
- Tools Used: Swift, Python, User Study, Figma, Research Writing

SmartLumina: In-car Lighting Interactive Design

[\[View PDF\]](#) [🔗](#) 2023

- Developed a new interaction system designed for both autonomous drivers and regular passengers familiar with these vehicle conditions, enabling natural interaction through gestures and provides relaxing feedback through lighting.
- Tools Used: User Study, Python, Arduino

Chasing: A VR Parkour Game

[\[View PDF\]](#) [🔗](#) 2023

- The theme style of this VR parkour game is “Data Punk” parkour game. Players experience the game from a first-person perspective and interact using VR controllers.
- Tools Used: Unity, C#, Oculus Development

Memotion Diary

2022

- Designed a WeChat mini program, which allows users to record their emotions in a diary every day and review them repeatedly in the future; Won **the third prize in East China**.
- Tools Used: Web Development, HTML/CSS

Honors and Awards

2024 Outstanding Undergraduate Thesis of Zhejiang University (Xhair)

2020 - 2022 Academic Excellence Student of Zhejiang University

2020 - 2022 Third Prize, Academic Scholarships of Zhejiang University (Top 20%)

2022 Third Prize in East China, China Collegiate Computing Contest

2022 Second Prize, Zhejiang University Industrial Design Competition

Skill Set

Programming: C++, C, Java, Python (Machine Learning, Data Analysis, LLMs), C# (Unity), HTML/CSS, Vue

Languages: TOFEL(108)