

## EDUCATION

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### Tsinghua University

Beijing, China

M.S.E. in Data Science and Information Technology (GPA: 3.97/4.0, Rank: 1/14)

2022.09 – 2025.06

*Advisor: Prof. Yuanchun Shi, Pervasive Interaction (PI) Lab*

*Courses: Big Data Analysis and Processing (4.0), ML & AI (4.0), Signal Processing and Data Management for AIoT Applications (4.0), Statistical Machine Learning (4.0), Studies of Interactive Art and Design (4.0)*

### Tsinghua University

Beijing, China

B.S. in Psychology (Major GPA: 3.9/4.0, Rank: 1/34)

2018.08 – 2022.06

*Honors: Excellent Graduates, Award of Excellence in Academic Performance (top 5%)*

*Courses: Cognitive Psychology (4.0), Health Psychology (4.0), Psychology Statistics (4.0), Psychometrics (4.0)*

## PUBLICATIONS & UNDER REVIEW MANUSCRIPTS

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| Beyond Digital Privacy: Uncovering Deeper Attitudes toward Privacy in Home Camera among Older Adults

Weiwei Zhang, Jianing Yin, **Ka I Chan**, Jihong Jeung, Tongxin Sun, Tongtong Jin, Jiangtao Gong

*IJHCS 2024 - International Journal of Human Computer Studies*

| Automated Grading Hemifacial Spasm Using Smartphone Cameras

**Ka I Chan**\*, Bo Hei\*, Linghao Meng\*, Ruen Liu†, Yuntao Wang†, Chang Chen, Qingpei Hao, Yuanchun Shi

*IEEE UIC 2024 - The 21<sup>st</sup> IEEE International Conference on Ubiquitous Intelligence and Computing*

| Top-Tier Medical Resource Seeking for Specialized Disorder in China from an Actor-Network Perspective

**Ka I Chan**, Siying Hu, Yuntao Wang, Xuhai “Orson” Xu, Zhicong Lu, Yuanchun Shi

*CHI 2025 - ACM CHI Conference on Human Factors in Computing Systems (Under Review)*

| Human and Algorithmic Visual Attention in Driving Tasks

Chen Zheng, Pengfei Li, Bu Jin, Shanhe You, **Ka I Chan**, Ya-Qin Zhang, Guyue Zhou, Jiangtao Gong

*npj Artificial Intelligence (Under Review)*

## RESEARCH EXPERIENCE

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### Just-in-time Eating Behavior Intervention for Fast Eaters using Earphones

Beijing, China

*Advisors: Yuntao Wang (Tsinghua University), Xuhai “Orson” Xu (Columbia University)*

2024.04 – Present

- Collected comprehensive datasets using cameras, earphones, and IMU sensors during eating episodes in both laboratory and real-world settings to define and analyze fast eating behaviors.
- Designed theory-based intervention content and frequency iteratively utilizing WoZ and LLM.
- Developed algorithms and an Android app for real-time eating behavior detection and intervention.
- Evaluated the implementation of audio just-in-time interventions for fast eaters, assessing immediate, short-term, and long-term effects on eating behaviors and overall health outcomes.

### **Hemifacial Spasm: from Patient Journey to Automated Medical Grading**

Beijing, China

*Advisors: Yuntao Wang (Tsinghua University), Zhicong Lu (City University of Hong Kong)* 2023.06 – Present

- Explored how patients with Hemifacial Spasm (as a Specialized Disorder) access top-tier medical resources by mitigating the information and power asymmetries in the patient-doctor relationship in China through semi-structured interviews with neurosurgeons and patients from both rural and urban areas.
- Established a novel, quantifiable medical grading system by identifying three critical facial features, and developed algorithms capable of automatically grading Hemifacial Spasm using smartphone cameras through facial keypoint detection and feature point vectors.

### **Topic Modeling to Explore Financial Behaviors in Bipolar Disorder**

Pennsylvania, USA

*Advisor: Saeed Abdullah (Penn State University)*

2023.08 – 2023.11

- Investigated compulsive buying and risk-taking behaviors observed during manic episodes in bipolar disorder by analyzing legal cases through the Harvard Caselaw Access Project API using NLP techniques.
- Utilized topic-guided thematic analysis, LDA, and the ChatGPT to extract and analyze themes from case law related to bankruptcy and bipolar disorder, identifying significant themes and trends in legal cases and developing visualizations illustrating changes in case numbers over time.

### **Exploring Older Adults' Perception of Home Cameras with Fall Detection**

Beijing, China

*Advisors: Jihong Jeung, Jiangtao Gong (Tsinghua University) and Tencent*

2021.09 – 2023.06

- Investigated older adults' privacy attitudes towards home cameras via surveys and interviews.
- Gathered insights from older adults on fall detection and emergency response through role-play in the focus group, focusing on two key scenarios based on their post-fall consciousness.
- Explored the connections between older adults' views on privacy, invisibility, concealment, and design language, facilitating their translation of insights into prototypes in a co-design workshop.
- Proposed innovative design guidelines and the PARW Design Model for elder-oriented smart products, emphasizing privacy, stigma avoidance, and user experience.

### **Impact of LED Masks on People's Communication**

Beijing, China

*Advisor: Fei Wang (Tsinghua Laboratory of Brain and Intelligence)*

2021.09 – 2022.06

- Developed an LED mask prototype to explore the potential of LED masks to enhance communication during the pandemic by compensating for the loss of non-verbal cues obscured by traditional masks.
- Designed and conducted two experiments to compare the visual and interactive differences between LED and medical masks via video assessments and real-life conversations, suggesting that LED masks significantly improve interactivity and emotional conveyance.

## **INTERNSHIP EXPERIENCE**

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### **NetEase Games Thunder Fire UX**

Hangzhou, China

*User Experience Researcher for Summer Internship*

2021.07 – 2021.08

- Facilitated MMORPG Mobile Games “Chinese Ghost Story”, which boasts over 370,000 players.
- Collaborated with game designers and data engineers to enhance player experience via gathering and analyzing player feedback from surveys and interviews.
- Authored 8 reports that analyzed qualitative and quantitative data from over 100,000 players.

## SKILLS AND INTERESTS

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**Research:** Interview, Survey, Focus Group, Participatory Design, Thematic Analysis, Experimental Design, EEG and Eye-tracking, Latex.

**Design:** Data Visualization & User Experience Design (Figma), Hardware Prototyping (Arduino).

**Computing:** Front-End Development (HTML/CSS/JS), Android App Development (Android Studio), Statistical Analysis and Machine Learning (SPSS, Python, MATLAB).

**Language:** Fluent English (TOEFL BS106), Native Chinese (Mandarin, Cantonese, Hokkien).

**Interests:** Volunteering (8 years of experience), Music (Piano with ABRSM Grade 7, Former Percussion Member in THUMB), Powerlifting.

## REFERENCE

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