Ka I Chan

ckinicola@gmail.com
https://ka-i-chan.github.io/

EDUCATION

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

Advisors: Dr. Yuanchun Shi and Dr. Yuntao Wang, 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

| 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 Revise & Resubmit)

| 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 21st IEEE International Conference on Ubiquitous Intelligence and Computing

| 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, TongtongJin, Jiangtao Gong*

IJHCS 2024 - International Journal of Human Computer Studies

| 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

Just-in-time Eating Behavior Intervention for Fast Eaters using Earphones Beijing, China

Advisors: Dr. Yuanchun Shi, Dr. Yuntao Wang (Tsinghua University),

Dr. Xuhai "Orson" Xu (Columbia University) 2024.04 – Present

o Collected comprehensive datasets with cameras, earphones, and IMU sensors during eating episodes in lab and real-world settings to define and analyze fast eating behaviors.

o Designed theory-based intervention content and frequency iteratively using Wizard of Oz and LLM.

o Developed algorithms and an Android app for real-time detection and intervention of eating behaviors.

o Evaluated just-in-time audio interventions for fast eaters, assessing immediate, short-term, and long-term effects on eating behaviors and health outcomes.

Hemifacial Spasm: from Patient Journey to Automated Medical Grading Beijing, China

Advisors: Dr. Yuanchun Shi, Dr. Yuntao Wang (Tsinghua University),

Dr. Zhicong Lu (City University of Hong Kong) 2023.06 – Present

o   Investigated how patients with hemifacial spasm (as a specialized disorder) access top-tier medical resources in China by mitigating information and power asymmetries in the patient-doctor relationship through semi-structured interviews with neurosurgeons and patients from rural and urban areas.

o   Established a novel, quantifiable medical grading system by identifying three critical facial features, and developed algorithms to automatically grade hemifacial spasm using smartphone cameras via facial keypoint detection and feature point vectors.

Topic Modeling to Explore Financial Behaviors in Bipolar Disorder Pennsylvania, USA

Advisor: Dr. Saeed Abdullah (Penn State University) 2023.08 – 2023.11

o   Explored compulsive buying and risk-taking behaviors during manic episodes in bipolar disorder by analyzing legal cases using the Harvard Caselaw Access Project API using NLP techniques.

o   Employed topic-guided thematic analysis, LDA, and ChatGPT to identify key themes in bankruptcy-related case law, creating visualizations of trends in case numbers over time.

Exploring Older Adults' Perception of Home Cameras with Fall Detection Beijing, China

Advisors: Dr. Jihong Jeung, Dr. Jiangtao Gong (Tsinghua University) and Tencent 2021.09 – 2023.06

o   Investigated older adults' privacy attitudes toward home cameras through surveys and interviews.

o   Collected insights on fall detection and emergency response via role-play in a focus group, focusing on two post-fall scenarios.

o   Examined connections between privacy, invisibility, concealment, and design language, translating insights into prototypes during a co-design workshop.

o   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: Dr. Fei Wang (Tsinghua Laboratory of Brain and Intelligence) 2021.09 – 2022.06

o   Developed a hand-made LED mask prototype with Arduino to enhance communication by compensating for non-verbal cues lost with traditional masks during the pandemic.

o   Conducted two experiments comparing LED masks to medical masks, demonstrating that LED masks improve interactivity and emotional conveyance in both video assessments and real-life conversations.

INTERNSHIP EXPERIENCE

NetEase Games Thunder Fire UX Hangzhou, China

User Experience Researcher for Summer Internship 2021.07 – 2021.08

o   Facilitated MMORPG Mobile Games "Chinese Ghost Story", which boasts over 370,000 players.

o   Collaborated with game designers and data engineers to enhance player experience via gathering and analyzing player feedback from surveys and interviews.

o   Authored 8 reports that analyzed qualitative and quantitative data from over 100,000 players.

SKILLS AND INTERESTS

Research: Interview, Survey, Focus Group, Participatory Design, Thematic Analysis, Experimental Design, Diary Studies, 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

Yuanchun Shi, Ph.D.
Professor, Department of Computer Science and Technology, Tsinghua University
President, Qinghai University
Email: shiyc@tsinghua.edu.cn

Yuntao Wang, Ph.D.
Associate Professor, Department of Computer Science and Technology, Tsinghua University
Email: yuntaowang@tsinghua.edu.cn

Xuhai "Orson" Xu, Ph.D.
Assistant Professor, Department of Biomedical Informatics, Columbia University
Email: xx2489@columbia.edu

Zhicong Lu, Ph.D.
Assistant Professor, Department of Computer Science, City University of Hong Kong
Email: zhicong.lu@cityu.edu.hk

Bo Hei, M.D.
Associate Chief Physician, Department of Neurosurgery, Peking University People's Hospital
Email: heibo12345@126.com