Taizhou Chen (陈泰舟)

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Research Interests

Human-Computer Interaction, Sensing Technology, Multimodal VR/AR/XR, Ubiquitous Computing

Employment

Shantou University — Shantou, China
Cheng Kong School of Art and Design, Master Advisor — *Sept. 2024 – Now*

Shantou University — Shantou, China
Department of Computer Science, Assistant Professor — *Dec. 2022 – Now*

Education and Research Experiences

Monash University — Melbourne, Australia
Dept. of Human-Centered Computing, Visiting Scholar — *Aug. 2024*

Huawei Technologies Co., Ltd. — Shenzhen, China
HMI Lab, Research Engineer Intern — *Oct. 2020 – Apr.2021*

Tsinghua University — Beijing, China
Visiting Student, Supervisor: Dr. Chun Yu — *Dec. 2019 – Apr. 2020*

City Universiy of Hong Kong — HongKong, China
PhD in Creative Media, Supervisor: Dr. Kening Zhu, Co-supervisor: Prof. Hongbo Fu — *Sept. 2018 – Oct. 2022*

City Universiy of Hong Kong — HongKong, China
MA in Creative Media, GPA: 3.81/4.0, with Distinction — *Sept. 2016 – Oct. 2017*

Funded Projects

Natural Science Foundation of China - Young Scientists Fund — 2025.01 - 2027.12
国家自然科学基金项目-青年科学基金项目
PI, No. 62402301, RMB 300,000
Ring-Based Interaction Techniques Through Electric-Field Sensing

Natural Science Foundation of Guangdong Province - General Research Fund — 2025.01 - 2027.12
广东省自然科学基金项目-面上项目
PI, RMB 100,000
Low-Tethered Gesture-Based Interaction Techniques for Mobile VR Device

Teaching Research and Reform Foundation of Guangdong Province — 2024.10 - 2027.06
广东省高等教育教学研究和改革项目
PI, RMB 30,000
Research on the "Teacher-Student-Computer" Ternary Teaching Mode

STU Scientific Research Initiation Grant (SRIG) — 2023.01 - 2026.12
PI, RMB 250,000
Research on Smart Ring Interaction Techniques

Natural Science Foundation of China - General Research Fund — 2022.01 - 2025.12
国家自然科学基金项目-面上项目
CI, No. 62172346, RMB 640,000
Data-Driven Rendering of Temperature Tactile Signals for Virtual Material Simulation

Publications

CHI LBW 2025

Yantao Liu, Dongmin Xiao, **Taizhou Chen***, and Kening Zhu. 2025. Aug- menting Tablet Typing Experience by Integrating Key-Press Finger Contact Types as Input. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '25), April 26-May 1, 2025, Yokohama, Japan. ACM, New York, NY, USA, 8 pages. https://doi.org/10.1145/3706599.3720116

CHI LBW 2025

Tianrui Hu, **Taizhou Chen***, and Kening Zhu*. 2025. AirThumb: Supporting Mid-air Thumb Gestures with Built-in Sensors on Commodity Smartphones. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '25), April 26-May 1, 2025, Yokohama, Japan. ACM, New York, NY, USA, 7 pages. https://doi.org/10.1145/3706599.3721219

IMWUT / UbiComp 2023

Taizhou Chen, Tianpei Li, Xingyu Yang, Kening Zhu. 2022. EFRing: Enabling Thumb-to-Index-Finger Microgesture Interaction through Electric Field Sensing using Single Smart Ring. Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. 6, 4, Article 161 (December 2022), 31 pages. https://doi.org/10.1145/3569478

MTA

Taizhou Chen, Kening Zhu, Ming Chieh Yang. Deep-Learning-Based Unobtrusive Handedness Prediction for One-Handed Smartphone Interaction. Multimed Tools Appl (2022). ISSN: 1573-7721 https://doi.org/10.1007/s11042-021-11844-6

IJHCS

Taizhou Chen, Lantian Xu, Kening Zhu. FritzBot: A Data-Driven Conversational Agent for Physical-Computing System Design, in International Journal of Human-Computer Studies, Volume 155, November 2021, ISSN: 1071-5819 https://doi.org/10.1016/j.ijhcs.2021.102699

TVCG / IEEE VR 2021

Taizhou Chen, Lantian Xu, Xianshan Xu and Kening Zhu, GestOnHMD: Enabling Gesture-Based Interaction on Low-Cost VR Head-Mounted Display, in IEEE Transactions on Visualization and Computer Graphics, ISSN: 1941-0506, doi: 10.1109/TVCG.2021.3067689.

CHI Symposium 2020

Zhiyi Rong, Ngo Fung Chan, **Taizhou Chen**, Kening Zhu. CodeRhythm: A Tangible Programming Toolkit for Visually Impaired Students. In Proceedings of Asian CHI Symposium 2020, ACM CHI 2020. Best Paper Award.

HCII 2020

Arshad Nasser, **Taizhou Chen**, Can Liu, Kening Zhu, P. V. M. Rao. 2020. FingerTalkie: Designing A Low-Cost Finger-Worn Device for Interactive Audio Labeling of Tactile Diagrams. In Proceedings of International Conference on Human-Computer Interaction (HCI International) 2020. Springer, Cham.

HCII 2020

Zhiyi Rong, Ngo Fung Chan, **Taizhou Chen**, Kening Zhu. Toward Inclusive Learning: Designing and Evaluating Tangible Programming Blocks for Visually Impaired Students. In Proceedings of International Conference on Human-Computer Interaction (HCI International) 2020. Springer, Cham.

INTERACT 2019 **Taizhou Chen**, Yi-Shiun Wu, and Kening Zhu. DupRobo: Interactive Robotic Autocompletion of Physical Block-Based Repetitive Structure. In Proceedings of the 17th IFIP TC.13 International Conference on Human-Computer Interaction (INTERACT 2019). Springer-Verlag, Berlin, Heidelberg, 19 pages.

IJHCS Kening Zhu, Simon Perrault, **Taizhou Chen**, Shaoyu Cai, Roshan Lalintha Peiris. A Sense of Ice and Fire: Exploring Thermal Feedback with Multiple Thermoelectric-Cooling Elements on A Smart Ring. International Journal of Human-Computer Studies. Volume 130, 2019, Pages 234-247, ISSN 1071-5819, https://doi.org/10.1016/j.ijhcs.2019.07.003.

CHI 2019 Kening Zhu, **Taizhou Chen**, Feng Han, and Yi-Shiun Wu. 2019. HapTwist: Creating Interactive Haptic Proxies in Virtual Reality Using Low-Cost Twistable Artefacts. In CHI Conference on Human Factors in Computing Systems Proceedings (CHI 2019), May 4–9, 2019, Glasgow, Scotland UK. ACM, New York, NY, USA, 13 pages. https://doi.org/10.1145/3290605.3300923.

VRST 2018 **Taizhou Chen**, Yi-Shiun Wu, and Kening Zhu. 2018. Investigating Different Modalities of Directional Cues for Multi-Task Visual-Searching Scenario in Virtual Reality. In VRST 2018: 24th ACM Symposium on Virtual Reality Software and Technology (VRST '18), November 28 - December 1, 2018, Tokyo, Japan. ACM, New York, NY, USA, 6 pages. Acceptance Rate: 22%.

Extended Abstracts

CHI 2020 **Taizhou Chen**. 2020. Facilitating Physical-Computer System Design through Data-Driven Natural-Language Interaction. In Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI EA '20). Association for Computing Machinery, New York, NY, USA, 1–6.DOI:https://doi.org/10.1145/3334480.3381442.

SIGGRAPH Asia 2018 Kening Zhu, **Taizhou Chen**, Shaoyu Cai, Feng Han, and Yi-Shiun Wu. 2018. Demo - HapTwist: Creating Interactive Haptic Proxies in Virtual Reality Using Low-Cost Twistable Artefacts. In Proceedings of SA '18 Virtual and Augmented Reality . ACM, New York, NY, USA, 2 pages.

SIGGRAPH Asia 2017 **Taizhou Chen**, Yi-Shiun Wu, Feng Han, Baochuan Yue, and Kening Zhu. 2017. DupRobo: An Interactive Robotic Platform for Phyiscal Block-Based Autocompletion. In SIGGRAPH Asia 2017 Posters (SA '17). Association for Computing Machinery, New York, NY, USA, Article 19, 1–2. DOI:https://doi.org/10.1145/3145690.3145708.

SIGGRAPH Asia 2017 **Taizhou Chen**, Junyu Liu, Kening Zhu, and Tamas Waliczky. 2017. The Golden Guardian: Multi-Sensory Immersive Gaming through Multi-Sensory Spatial Cues. In SIGGRAPH Asia 2017 VR Showcase (SA '17). ACM, New York, NY, USA, Article 12, 2 pages. DOI: https://doi.org/10.1145/3139468.3139473. Acceptance rate: 25%.

Patents

2023 Kening Zhu, **Taizhou Chen**, Tianpei Li, Interactive Wearable Device And Method Of Machine Learning Based Training Thereof. Patent No.: US11,822,732. Nov 21, 2023.

2023 Zhida Sun, Wenhao Wu, Qiang Xu, Chenhe Li, Zhe Liu, Nu Zhang, Yanshan He, **Taizhou Chen**, Yibin Zhai, Data processing method and related device. Patent No.: WO2023051750A1. Apr 6, 2023.

2021 Kening Zhu, **Taizhou Chen**, Xu Lantian, Computerized Method of Composing A System for Performing A Task. (Accepted/In press/Filed) Priority No. 17/644,662

2020 Kening Zhu, Feng Han, **Taizhou chen**, Yi-Shiun Wu, Systems and Methods for Creating Haptic Proxies for Use in Virtual Reality. Patent No.: US11,144,112. Oct 12, 2021.

Award

Geneva International Exhibition of Inventions 2022
Bronze medal

The Outstanding Academic Performance Award for Research Degree Students 2021
Academic year 2020 - 21, City University of Hong Kong

Best Paper Award 2020
Asian CHI Symposium 2020, ACM

Research Tuition Scholarship 2020
Academic year 2020 - 21, City University of Hong Kong

The Outstanding Academic Performance Award for Research Degree Students 2019
Academic year 2018 - 19, City University of Hong Kong

Professional Service

Working Committee
ICACHI Blue Book for China Human-Computer Interaction Educational Development in 2022
***ICACHI 2022*中国人机交互发展蓝皮书工作委员会**

PC Member
IEEE International Conference on Artificial Intelligence and Virtual Reality (AIVR) 2020/2021/2024
ACM UbiComp/ISWC 2023
ACM SIGGRAPH Asia Emerging Technologies 2023/2024

Reviewer
ACM CHI Conference on Human Factors in Computing Systems 2019/2020/2021/2022/2023/2024/2025
The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) 2022
ACM SIGGRAPH 2022
ACM SIGGRAPH Asia 2018/2020/2021,
IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR) 2020/2021
IEEE International Symposium on Mixed and Augmented Reality (ISMAR) 2022
The ACM International Conference on Mobile Human-Computer Interaction (MobileHCI) 2020/2023/2024
ACM International Conference on Multimodal Interaction (ICMI) 2020/2021
ACM Interactive Surfaces and Spaces Conference (ISS) 2020/2021/2022
ACM Conference on Intelligent User Interfaces (IUI) 2020/2021/2022
ACM Spatial User Interaction (SUI) 2020
ACM International Symposium on Wearable Computers (ISWC) 2018
International Symposium of Chinese CHI (ChineseCHI) 2022/2023
Annual Conference on Tangible Embedded and Embodied Interaction 2023

Talk

Multimodal and Embodied User Interface for Natural Human-Computer Interaction

- Sensi Lab & Exertion Games Lab & Embodied Visualisation Group, Monash Univ. [Link] Aug. 2024, Australia
- Dept. of Computer Science, Monash Univ. May. 2023, Shantou, China

GestOnHMD: Enabling Gesture-based Interaction on Low-cost VR Head-Mounted Display

- Graphics And Mixed Environment Symposium (GAMES) Sept. 2021, Online
- IEEE VR Conference Presentation Mar. 2021, Online

DupRobo: Interactive Robotic Autocompletion of Physical Block-based Repetitive Structure

- INTERACT 2019 Sept. 2019, Paphos, Cyprus

HapTwist: creating interactive haptic proxies in virtual reality using low-cost twistable artefacts

- CHI 2019 May. 2019, Glasgow, UK

Investigating different modalities of directional cues for multi-task visual-searching scenario in virtual reality

- VRST 2018 Dec. 2018, Tykyo, Japan

DupRobo: an interactive robotic platform for phyiscal block-based autocompletion

- SIGGRAPH Asia 2017 Dec. 2017, Bangkok, Thailand

Teaching

[**CityU**] SM1103A Introduction to Media Computing	2018/19 Semester A 2019/20 Semester A
[**CityU**] CS4187 Computer Vision for Interactivity	2018/19 Semester A 2019/20 Semester A 2020/21 Semester A
[**STU**] CST1701A The C Programming Language	2023/24 Semester A 2023/24 Semester B
[**STU**] ISI3003A Practice in Python Programming	2023/24 Semester A
[**STU**] CST3402A Computer Networks	2023/24 Semester B

2025/3/1 updated