

# Taizhou Chen (陳泰舟)

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## RESEARCH INTERESTS

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

## EMPLOYMENT

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|---|---|
| <b>Shantou University</b><br><i>Cheng Kong School of Art and Design, Master Advisor</i> | Shantou, China<br><i>Sept. 2024 – Now</i> |
| <b>Shantou University</b><br><i>Department of Computer Science, Assistant Professor</i> | Shantou, China<br><i>Dec. 2022 – Now</i>  |

## EDUCATION AND RESEARCH EXPERIENCES

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| <b>Monash University</b><br><i>Dept. of Human-Centered Computing, Visiting Scholar</i>  | Melbourne, Australia<br><i>Aug. 2024</i>         |
| <b>Huawei Technologies Co., Ltd.</b><br><i>HMI Lab, Research Engineer Intern</i>  | Shenzhen, China<br><i>Oct. 2020 – Apr. 2021</i>  |
| <b>Tsinghua University</b><br><i>Visiting Student, Supervisor: Dr. Chun Yu</i>  | Beijing, China<br><i>Dec. 2019 – Apr. 2020</i>   |
| <b>City University of Hong Kong</b><br><i>PhD in Creative Media, Supervisor: Dr. Kening Zhu, Co-supervisor: Prof. Hongbo Fu</i> | HongKong, China<br><i>Sept. 2018 – Oct. 2022</i> |
| <b>City University of Hong Kong</b><br><i>MA in Creative Media, GPA: 3.81/4.0, with Distinction</i>                             | HongKong, China<br><i>Sept. 2016 – Oct. 2017</i> |

## FUNDED PROJECTS

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|---|-------------------|
| <b>Natural Science Foundation of China - Young Scientists Fund</b><br>國家自然科學項目-青年科學基金項目<br>PI, No. 62402301, RMB 300,000<br><i>Ring-Based Interaction Techniques Through Electric-Field Sensing</i>                 | 2025.01 - 2027.12 |
| <b>Natural Science Foundation of Guangdong Province - General Research Fund</b><br>廣東省自然科學基金項目-面上項目<br>PI, RMB 100,000<br><i>Low-Tethered Gesture-Based Interaction Techniques for Mobile VR Device</i>             | 2025.01 - 2027.12 |
| <b>Teaching Research and Reform Foundation of Guangdong Province</b><br>廣東省高等教育教學研究和改革項目<br>PI, RMB 30,000<br><i>Research on the "Teacher-Student-Computer" Ternary Teaching Mode</i>                               | 2024.10 - 2027.06 |
| <b>Startup Project of Shantou University</b><br>PI, RMB 250,000<br><i>Research on Smart Ring Interaction Techniques</i>   | 2023.01 - 2026.12 |
| <b>Natural Science Foundation of China - General Research Fund</b><br>國家自然科學項目-面上項目<br>CI, No. 62172346, RMB 640,000<br><i>Data-Driven Rendering of Temperature Tactile Signals for Virtual Material Simulation</i> | 2022.01 - 2025.12 |

- 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 Auto-completion 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

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- 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 Physical 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

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- 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

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| <b>Geneva International Exhibition of Inventions</b><br><i>Bronze medal</i>  | 2022 |
| <b>The Outstanding Academic Performance Award for Research Degree Students</b><br><i>Academic year 2020 - 21, City University of Hong Kong</i> | 2021 |
| <b>Best Paper Award</b><br><i>Asian CHI Symposium 2020, ACM</i>  | 2020 |
| <b>Research Tuition Scholarship</b><br><i>Academic year 2020 - 21, City University of Hong Kong</i>  | 2020 |
| <b>The Outstanding Academic Performance Award for Research Degree Students</b><br><i>Academic year 2018 - 19, City University of Hong Kong</i> | 2019 |

## PROFESSIONAL SERVICE

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### Working Committee

*ICACHI Blue Book for China Human-Computer Interaction Educational Development in 2022*

**ICACHI 2022中國人機交互發展藍皮書工作委員會**

### 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

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### ***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, Tokyo, Japan

*DupRobo: an interactive robotic platform for physical block-based autocompletion*

- SIGGRAPH Asia 2017    Dec. 2017, Bangkok, Thailand

## TEACHING

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|   |  |
|---|--|
| [CityU] SM1103A Introduction to Media Computing | 2018/19 Semester A<br>2019/20 Semester A |
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| [CityU] CS4187 Computer Vision for Interactivity | 2018/19 Semester A<br>2019/20 Semester A<br>2020/21 Semester A |
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| [STU] CST1701A The C Programming Language | 2023/24 Semester A<br>2023/24 Semester B |
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| [STU] ISI3003A Practice in Python Programming | 2023/24 Semester A |
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| [STU] CST3402A Computer Networks | 2023/24 Semester B |
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2024/11/29 updated