

# Yueyuan (Mercury) ZHENG

## Office Address:

Room 3371, Division of Social Science, Hong Kong University of Science and Technology,  
Clear Water Bay, New Territories, Hong Kong SAR

## Work email:

[vyzheng@ust.hk](mailto:vyzheng@ust.hk)

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## EMPLOYMENT

2024- Research Assistant Professor (Division of Social Science)  
Hong Kong University of Science and Technology (HKUST), Hong Kong

## EDUCATION

2021-2024 Doctor of Philosophy (Ph.D.) in Cognitive Psychology  
University of Hong Kong (HKU), Hong Kong; Supervisor: *Prof. Janet Hsiao*

2019-2021 Master of Philosophy (M.Phil.) in Cognitive Psychology  
University of Hong Kong, Hong Kong; Supervisor: *Prof. Janet Hsiao*

2014-2018 Bachelor of Social Sciences (B.S.S.), major in Psychology  
University of Hong Kong, Hong Kong

## AWARDS AND HONORS

2023	Erik Kvan Postgraduate Scholarship (1 awardee/year)	HKU
2022	Student Award	IEEE TCLT, 22 <sup>nd</sup> ICALT
2021	Graduate Research Publication Award	HKU Department of Psychology
2020	Outstanding Oral Presentation Award	HKU Department of Psychology
2019	Student Travel Award (1/2 Asian awardees)	Cognitive Science Society
2019, 2022, 2023	Travel Grant for Research Postgraduate Students	URC/CRCG, HKU
2019-2024	Research Postgraduate Scholarship, in MPhil & PhD	HKU
2017	Best Oral Presentation Award	HKU Faculty of Social Sciences
2016-2017	JASSO Scholarship	Japan Student Service Organization
2015	Summer Enrichment Scholarship	HK Government

## VISITING EXPERIENCE

2023	University of Western Australia	<i>Visiting Research Student</i>
2016-2017	University of Tokyo	<i>University-Wide Exchange</i>
2016	University of Cambridge	<i>Pembroke-King's Program</i>
2015	University of California, Irvine	<i>Summer Program</i>

## RESEARCH INTERESTS

Visual Cognition; Emotion; Cognitive Neuroscience; Cognitive Modeling

## PUBLICATIONS

# denotes co-first authorship, \* denotes corresponding authors, \_ denotes representative papers

1. **Zheng, Y.#**, Chen D.#, Hu, X.\*, & Hsiao, J. H.\* (2026). The effect of mask use on cross-race face perception: Evidence from simultaneous EEG and eye movement recording. *Cognitive Research: Principles and Implications*, 11:9.

2. Liu, G., **Zheng, Y.**, Tsang, M., Zhao, Y., Hsiao, J. H.\* (2025). Understanding the role of eye movement pattern and consistency during face recognition through EEG decoding. *npj Science of Learning*, 10, 28.
3. Que, Y., **Zheng, Y.**, Hsiao, J. H., & Hu, X.\* (2025). Using eye movements, electrodermal activities, and heart rates to measure cognitive load during reading with self-selected background music. *Scientific Reports*.
4. Buchanan, E. M., Cuccolo, K., Heyman, T., ..., Hsiao, J. H., ..., **Zheng, Y.**, ..., & Lewis, S. (2025). Measuring the Semantic Priming Effect Across Many Languages. Measuring the semantic priming effect across many languages. *Nature Human Behaviour*, 1-20.
5. Heyman, T., Pronizius, E., Lewis, S. C., ..., **Zheng, Y.**, Buchanan, E. M. (2025). Crowdsourcing multiverse analyses to explore the impact of different data-processing and analysis decisions: A tutorial. *Psychological Methods*.
6. Qi, R.#, **Zheng, Y.#**, Yang, Y., Cao, C. C., & Hsiao, J. H.\* (2024). Explanation strategies in humans versus current explainable artificial intelligence: Insights from image classification. *British Journal of Psychology*. [Special Issue: The Use of AI in Psychological Research] (IF = 4.0, rank 32/147 in Psychology, Multidisciplinary)
7. Nan, Y., Mehta, P., Liao, J., **Zheng, Y.**, Han, C., & Wu, Y.\* (2024). Testosterone administration decreases sensitivity to angry facial expressions in healthy males: A computational modeling approach. *Psychoneuroendocrinology*, 161, 106948. (IF = 3.7, rank 75/145 in Endocrinology & Metabolism)
8. **Zheng, Y.**, & Hsiao, J. H.\* (2023). Differential audiovisual information processing in emotion recognition: An eye-tracking Study. *Emotion*, 23(4), 1028. (IF = 5.564, rank 7/91 in Psychology, Experimental)
9. Que, Y., **Zheng, Y.**, Hsiao, J. H., & Hu, X.\* (2023). Studying the effect of self-selected background music on reading task with eye movements. *Scientific Reports*, 13(1), 1704. (IF = 4.997, rank 19/74 in Multidisciplinary Sciences) [Top 100 Sustainability Papers of 2023] (ranked 17<sup>th</sup> in the most downloaded papers published by *Scientific Reports* in 2023)
10. **Zheng, Y.**, Ye, X., & Hsiao, J. H.\* (2022). Does adding video and subtitles to an audio lesson facilitate its comprehension?. *Learning and Instruction*, 101542. (IF = 6.636, rank 13/332 in Developmental and Educational Psychology) [linked to Sustainable Development Goal]
11. Hsiao, J. H.\* , An, J., Hui, V. K. S., **Zheng, Y.**, & Chan, A. B. (2022). Understanding the role of eye movement consistency in face recognition and autism through integrating deep neural networks and hidden Markov models. *npj Science of Learning*, 7(1), 1-13. (IF = 5.513, rank 8/91 in Psychology, Experimental)
12. Luo, X., Gu, J., **Zheng, Y.**, & Zhou, X.\* (2022) Making a saccade enhances Stroop and Simon conflict control. *Attention, Perception, & Psychophysics*, 84(3), 795-814. (IF = 2.199, rank 57/77 in Psychology)
13. Hsiao, J. H.\* , Lan H., **Zheng, Y.**, & Chan, A. B. (2021). Eye Movement analysis with Hidden Markov Models (EMHMM) with co-clustering. *Behavior Research Methods*, 1-14. <https://rdcu.be/cjLZJ> (IF = 6.242, rank 1/13 in Psychology, Mathematical; 5/91 in Psychology, Experimental)
14. Hsiao, J. H.\* , An, J., **Zheng, Y.**, & Chan, A. B. (2021). Do portrait artists have enhanced face processing abilities? Evidence from hidden Markov modeling of eye movements. *Cognition*, 211, 104616. (IF = 3.650, rank 18/91 in Psychology, Experimental)
15. Turbett, K.\* , Jeffery, L., Bell, J., Digges, A., **Zheng, Y.**, Hsiao, J. H., Palermo, R. (2021). Serial dependence of facial identity for own- and other-race faces. *Quarterly Journal of Experimental Psychology*, 17470218211059430. (IF = 2.143, rank 55/77 in Psychology)

### Preprints

16. Qi, R.#, **Zheng, Y.#**, Yang, Y., Cao, C. C., & Hsiao, J. H.\* (2023). Explanation strategies for image classification in humans vs. current explainable artificial intelligence. <https://arxiv.org/abs/2304.04448>
17. Qiu, L., Yang, Y., Cao, C. C., Liu, J., **Zheng, Y.**, Ngai, H. H. T., Hsiao, J. H., & Chen, L. (2021). Resisting out-of-distribution data problem in perturbation of explainable artificial intelligence. <https://arxiv.org/abs/2107.14000>.

### Conference Proceedings

#### Full Papers

18. Wang, E., **Zheng, Y.**, Hsiao, J. H., & Maurer, U. (2025). Emotion influences behavioral outcomes and attention

- during goal-directed reading. *Proceedings of the 47th Annual Conference of the Cognitive Science Society* (pp.). Cognitive Science Society. (**Oral**; acceptance rate: 13.8%)
19. Ding, R., **Zheng, Y.**, Hsiao, J. H., & He, L. (2025). Convolutional neural networks and humans display similar biases and attention distributions in visualization-based statistical judgments. *Proceedings of the 47th Annual Conference of the Cognitive Science Society* (pp.). Cognitive Science Society.
  20. **Zheng, Y.**, Liao, W., Tso, R., Hsiao, J. H. (2024). The impact of mask use on face recognition in adults with autism spectrum disorder: An eye-tracking study. *Proceedings of the 46th Annual Conference of the Cognitive Science Society* (pp. 1755-1762). Cognitive Science Society.
  21. Xing, W.#, **Zheng, Y.#**, Chan, A., & Hsiao, J. H. (2024). Is holistic processing associated with face scanning pattern and performance in face recognition? Evidence from deep neural network with hidden Markov modeling. *Proceedings of the 46th Annual Conference of the Cognitive Science Society* (pp. 85-92). Cognitive Science Society. (**Oral**; acceptance rate: 19%)
  22. Que, Y., **Zheng, Y.**, Hsiao, J. H., Hu, X. (2024). Predicting learners' meta-cognition using eye movements during reading with background music. *Proceedings of the 24<sup>th</sup> IEEE International Conference on Advanced Learning Technologies (ICALT)*.
  23. **Zheng, Y.**, de la Harpe, S., Yang, A. Y., Hayward, W. G., Palermo, R., Hsiao, J. H. (2023). Cultural differences in the effect of mask use on face and facial expression recognition. *Proceedings of the 45th Annual Conference of the Cognitive Science Society*. Cognitive Science Society, 2193-2200.
  24. Qi, R., **Zheng, Y.**, Yang, Y., Zhang, J., & Hsiao, J. H. (2023). Individual differences in explanation strategies for image classification and implications for explainable AI. *Proceedings of the 45th Annual Conference of the Cognitive Science Society*. Cognitive Science Society, 1644-1651.
  25. **Zheng, Y.**, Que, Y., Hu, X., Hsiao, J. H. (2022). Predicting reading performance based on eye movement analysis with hidden markov models. *Proceedings of the 22<sup>nd</sup> IEEE International Conference on Advanced Learning Technologies (ICALT)*. (**Oral**) [**Student Award**] [**Best Full Paper Award Nomination**]
  26. Yang, Y., **Zheng, Y.**, Deng, D., Zhang, J., Huang, Y., Yang, Y., Hsiao, J. H., & Cao, C.\* (2022). HSI: Human saliency imitator for benchmarking saliency-based model explanations. *The Tenth AAAI Conference on Human Computation and Crowdsourcing (HCOMP)*. (acceptance rate: 29.8%)
  27. **Zheng, Y.**, Chen, D., Hu, X., Hsiao, J. H. (2022). The impact of mask use on social categorization. *Proceedings of the 44th Annual Conference of the Cognitive Science Society*, 2024-2630. Cognitive Science Society. (**Oral**; acceptance rate: 27%)
  28. Qiu, L., Yang, Y., Cao, C. C., **Zheng, Y.**, Ngai, H. H. T., Hsiao, J. H., & Chen, L. (2022). Generating perturbation-based explanations with robustness to out-of-distribution data. *The ACM Web Conference 2022* (under Web4Good special track) (acceptance rate: 24%).
  29. **Zheng, Y.**, & Hsiao, J. H. (2020). Audiovisual information processing in emotion recognition: an eye-tracking study. In S. Denison., M. Mack, Y. Xu, & B.C. Armstrong (Eds.), *Proceedings of the 42nd Annual Conference of the Cognitive Science Society*, 2024-2630. Cognitive Science Society.
  30. Que, Y., **Zheng, Y.**, Hsiao, J. H., Hu, X. (2020). Exploring the Effect of Personalized Background Music on Reading Comprehension. *Proceedings of the Jointed Conference on Digital Libraries (JCDL) 2020* (pp. 57-66). Association for Computing Machinery, New York, NY, USA. (acceptance rate: 31.1%)
  31. **Zheng, Y.**, Ye, X., & Hsiao, J. H. (2019). Does video content facilitate or impair comprehension of documentaries? The effect of cognitive abilities and eye movement strategy. In A.K. Goel, C.M. Seifert, & C. Freksa (Eds.), *Proceedings of the 41st Annual Conference of the Cognitive Science Society*, 1283-1289. Montreal, QB: Cognitive Science Society. (**Oral**; acceptance rate: 25.3%) [**Student Travel Award**]

## Abstract

- A1. Fung, L., **Zheng, Y.**, Shi, B. E., Hsiao, J. H., Woo, J. (2025). What do older adults want from social robots and artificial intelligence? A product-oriented perspective. *Annual Scientific Meeting of the Gerontological Society of America (GSA)*.
- A2. **Zheng, Y.**, Lo, W. S., Lau, E. Y. Y., Eskes, G., Hui, L. L., & Hsiao, J. H. (2025). The Role of Eye Movement Consistency in Aging-Related Decline in Face Recognition. *Proceedings of the 47th Annual Conference of the Cognitive Science Society* (pp.). Cognitive Science Society. (Accepted as a full paper)
- A3. Yang, A., **Zheng, Y.**, Hsiao, J. H., Chung, S. (2024). Eye Movement Modulates the Face Inversion Effect in Emotion Recognition. *Vision Science Society*.

- A4. Hui, T. K., Sit, H. F., Cheung, T. W., **Zheng, Y.**, Hsiao, J. H., Li, S. X. (2023). Mediating Effect of Pre-Sleep Arousals on the Association between Sleep-related Attentional Bias and Sleep Disturbances – An Eye-tracking Study. *Asian Society of Sleep Medicine (ASSM) 2023*. [Young Investigator Award]
- A5. Hsiao, J., Chan, K. W. S., Chan, A., **Zheng, Y.**, Lau, K. M., Tsang, H. L. M. (2021). Eye movement consistency in global-local perceptual processing predicts schizotypy. *Proceedings of the 43rd Annual Conference of the Cognitive Science Society*, 3229. Montreal, QB: Cognitive Science Society.

## TEACHING EXPERIENCE

### *Teaching assistant for the following courses at HKU*

2023 Fall	PSYC2102	Foundations of Neuroscience
2022 Spring	PSYC1001	Introduction to Psychology
2020 Spring	PSYC2066	Foundations of Cognitive Science
2019 Fall	PSYC1004	Introduction to Quantitative Methods in Psychology

## EDITOR, REVIEWER, and OTHER SERVICES

2024-now	Committee member	Cognitive Science Society, Communication Committee
2022-2024	Committee member	Cognitive Science Society, International Committee
2019-2023	Eye-tracking lab manager	Department of Psychology, HKU
2019-2021	Lab manager	Attention, Brain and Cognition Lab
2015-2018	Student mentor & academic advisor	HKU CSSAUD

### *Ad-hoc Reviewer*

*Journals*: Learning and Instruction; International Journal of Human-Computer Interaction; Communications Psychology; Cognitive Research: Principles and Implications; Visual Cognition; Heliyon; Acta Psychologica; Brain Sciences

*Conferences*: Annual Meeting of Cognitive Science Society (CogSci; 2020, 2021, 2022, 2023, 2024, 2025, 2026)

### *Guest Associate Editor*

- Frontiers in Neuroscience (*Special Issue*: Advances in Explainable Analysis Methods for Cognitive and Computational Neuroscience)