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Updated on Aug 25th, 2026.

EMPLOYMENT

2024-now	Research Assistant Professor (Division of Social Science) Hong Kong University of Science and Technology (HKUST), Hong Kong, China
2021-2022	Research Intern, HUAWEI Hong Kong Research Center, Hong Kong, China

EDUCATION

2021-2024	Doctor of Philosophy (Ph.D.) in Cognitive Psychology University of Hong Kong (HKU), Hong Kong; Supervisor: <i>Prof. Janet Hsiao</i>
2019-2021	Master of Philosophy (M.Phil.) in Cognitive Psychology University of Hong Kong, Hong Kong; Supervisor: <i>Prof. Janet Hsiao</i>
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 nd 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>
2018	Peking University	<i>Research Intern</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; Science of Learning; Cognitive Neuroscience; Human-centric and eXplainable AI

RESEARCH GRANTS

External Peer-Reviewed Competitive Research Grants

1. General Research Fund (GRF) Grant (**Principal Investigator**), Research Grant Council of Hong Kong. Title: How does hand drawing versus drawing with generative artificial intelligence influence human visual cognition? 2026-2029.

2. General Program (Co- Investigator), National Natural Science Foundation of China (NSFC). Title: Enhancing business operations through human-machine collaborative data visualization. 2026-2029.

PUBLICATIONS

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

Journal Articles

1. **Zheng, Y.**, Lo, W. S., Lau, E. Y. Y., Eskes, G., Hui, L. L.*, & Hsiao, J. H.* (2026). The role of eye movement consistency in aging-related decline in face recognition. *npj Science of Learning*. (IF = 4.3, rank 9/104 in Psychology, Experimental)
2. Liu, G*, **Zheng, Y***, Zhang, J., Tian, L., & Zhou, W* (2026). Editorial: Advances in explainable analysis methods for cognitive and computational neuroscience. *Frontiers in Neuroscience*, 20, 1938732.
3. Xie, C., Xiang, S., **Zheng, Y.**, Shen, C., Li, Y., Cheng, W., ... & ZIB Consortium. (2026). Hierarchical neurocognitive model of externalizing and internalizing comorbidity. *Nature Mental Health*, 1-15. (IF = 9.3, rank 9/293 in Psychiatry)
4. Han, M., Dong, W., Fu, K., Wang, J., Xu, Y., **Zheng, Y.**, ... & Becker, B. (2026). Vasopressin and angiotensin II pathways differentially modulate human fear response dynamics to looming threats. *PLoS Biology*, 24(2), e3003668. (IF = 6.9, rank 6/106 in Biology)
5. **Zheng, Y.#**, Chen D.#, Hu, X*, & Hsiao, J. H.* (2026). The effect of mask use on cross-race face perception: A simultaneous EEG and eye-tracking study. *Cognitive Research: Principles and Implications*, 11:9. (IF = 3.6, rank 15/104 in Psychology, Experimental)
6. 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. (IF = 4.3, rank 9/104 in Psychology, Experimental)
7. 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*. (IF = 4.9, rank 21/140 in Multidisciplinary Sciences)
8. 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. (IF = 17.5, rank 2/104 in Psychology, Experimental)
9. 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*. (IF = 7.5, rank 8/222 in Psychology, Multidisciplinary)
10. 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 = 3.6, rank 40/222 in Psychology, Multidisciplinary)
11. 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)
12. **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)
13. 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 17th in the most downloaded papers published by *Scientific Reports* in 2023)
14. **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]
15. 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)

16. 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)
17. 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)
18. 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)
19. 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

20. Qiu, L., Li, J., Kim, H., Wei, X., **Zheng, Y.**, Hsiao, J., & Chen, L.* (2026). Explaining and Tuning Transformer-based LLMs in Arithmetic Tasks with Human Strategies. <https://arxiv.org/abs/2607.17166>
21. Jia, T., Xie, C., Xiang, S., **Zheng, Y.**, Shen, C., Li, Y., ... & Feng, J.* (2025). Hierarchical Neurocognitive Model of Externalizing and Internalizing Comorbidity. <https://www.researchsquare.com/article/rs-5397195/v1>
22. Xie, C., Xiang, S., **Zheng, Y.**, Shen, C., Peng, X., Li, Y., ... & Feng, J.* (2023). Dopaminergic-related Anatomical Pattern of Dorsal Striatum in Schizophrenia. <https://www.medrxiv.org/content/10.1101/2023.11.30.23298956v1>
23. 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>
24. 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>.

Peer-Reviewed Conference Proceedings

Full Papers

25. Fan, C., Yang, X., **Zheng, Y.**, Zhou, B., Wang, Y., Hu, W., Jing, H., Hung, K., Du, D., Li, H., Hsiao, J., Song, Y. (2026). GrandGuard: Taxonomy, benchmark, and safeguards for elderly-chatbot interaction safety. *The 64th Annual Meeting of the Association for Computational Linguistics (ACL 2026)*. (acceptance rate: 18% as Findings Paper)
26. 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%)
27. 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.
28. **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.
29. 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%)
30. 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 24th IEEE International Conference on Advanced Learning Technologies (ICALT)*.
31. **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.

32. 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.
33. **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 22nd IEEE International Conference on Advanced Learning Technologies (ICALT)*. (Oral) [Student Award] [Best Full Paper Award Nomination]
34. 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%)
35. **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%)
36. 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%).
37. **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.
38. 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%)
39. **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. **Zheng, Y.**, Chen, D., Palermo, R., Hu, X., Hsiao, J. H. (2026). Cultural differences in the effect of mask use on cross-race face perception: An eye-tracking study. *Proceedings of the 44th Annual Conference of the Cognitive Science Society*. Cognitive Science Society. (accepted as a full paper)
- A2. 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)*.
- A3. **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)
- A4. Yang, A., **Zheng, Y.**, Hsiao, J. H., Chung, S. (2024). Eye Movement Modulates the Face Inversion Effect in Emotion Recognition. *Vision Science Society*.
- A5. Hui, T. K., Sit, H. F., Cheung, T. W., **Zheng, Y.**, Hsiao, J. H., Li, S. X. (2023). Mediating Effect of Pre-Sleep Arousal 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]
- A6. 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

Guest Associate Editor

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

Ad-hoc Reviewer

Journals: Learning and Instruction; Psychonomic Bulletin & Review; 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)

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