Assistant Professor (Research) Wang, Ze

School of Computer Science and Engneering, Faculty of Innovation Engineering
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Academic Qualification:

Ph.D in Electrical and Computer Engineering, University of Macau, 2022.
MS in Electrical and Computer Engineering, University of Macau, 2017.
BS in Electrical and Electronics Engineering, University of Macau, 2014.

Teaching Area

CS120 Discrete Mathematics
MATH103 Calculus III

Research Area

Signal Processing; Brain-Computer Interface; Machine Learning

Working Experience

2023.01 - Present, Assistant Professor, School of Computer Science and Engneering, Faculty of Innovation Engineering, Macau University of Science and Technology

Academic Publication（selected）

Ze Wang, Chi Man Wong, Boyu Wang, Zhao Feng, Fengyu Cong, Tao Qian, “Compact artificial neural network based on task attention for individual SSVEP recognition with less calibration”, *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 31, pp. 2525-2534, 2023.

Ze Wang, Chi Man Wong, Agostinho Rosa, Tao Qian, Tzzy-Ping Jung, Feng Wan, “Stimulus-stimulus transfer based on time-frequency-joint representation in SSVEP-based BCIs,” *IEEE Transactions on Biomedical Engineering*, vol. 70, pp. 603-615, 2022.

Ze Wang, Chi Man Wong, Agostinho Rosa, Tao Qian, Feng Wan, “Adaptive Fourier decomposition for multi-channel signal analysis,” *IEEE Transactions on Signal Processing*, vol. 70, pp. 903-918, 2022.

Ze Wang, Chi Man Wong, Wenya Nan, Qi Tang, Agostinho Rosa, Peng Xu, Feng Wan, “Learning curve of a short time neurofeedback training: Reflection of brain network dynamics based on phase locking value,” *IEEE Transactions on Cognitive and Developmental Systems*, vol. 14, pp. 1282-1295, 2021.

Ze Wang, Feng Wan, Chi Man Wong and Liming Zhang, “Adaptive Fourier decomposition based ECG denoising,” *Computers in Biology and Medicine*, vol. 77, pp. 195-205, 2016.

Yufan Peng, **Ze Wang (Co-first author)**, Chi Man Wong, Wenya Nan, Agostinho Rosa, Peng Xu, Feng Wan, Yong Hu, “Changes of EEG phase synchronization and EOG signals along the use of steady state visually evoked potential-based brain computer interface,” *Journal of Neural Engineering*, vol. 17, p. 045006, 2020.

Chi Man Wong, **Ze Wang**, Boyu Wang, Agostinho Rosa, Tzyy-Ping Jung, Feng Wan, "Enhancing detection of multi-frequency-modulated SSVEP using phase difference constrained canonical correlation analysis," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 31, pp. 1343-1352, 2023.

Chi Man Wong, **Ze Wang**, Masaki Nakanishi, Boyu Wang, Agostinho Rosa, C. L. Philip Chen, Tzyy-Ping Jung, Feng Wan, “Online adaptation boots SSVEP-based BCI performance,” *IEEE Transactions on Biomedical Engineering*, vol. 69, pp. 2018–2028, 2022.

Chi Man Wong, **Ze Wang**, Agostinho Rosa, C. L. Philip Chen, Tzyy-Ping Jung, Yong Hu, Feng Wan, “Transferring subject-specific knowledge across stimulus frequencies in SSVEP-based BCIs,” *IEEE Transactions on Automation Science and Engineering*, vol.18, pp. 552–563, 2021.

Chi Man Wong, **Ze Wang**, Boyu Wang, Ka Fai Lao, Agostinho Rosa, Peng Xu, Tzyy-Ping Jung, C. L. Philip Chen, Feng Wan, “Inter-and intra-subject transfer reduces calibration effort for high-speed SSVEP-based BCIs”, *IEEE Transactions on Neural Systems and Rehabilitation Engineering* , vol. 28, pp. 2123–2135, 2020.
Chi Man Wong, Boyu Wang, **Ze Wang**, Ka Fai Lao, Agostinho Rosa, Feng Wan, “Spatial filtering in SSVEP-based BCIs: Unified framework and new improvements,” *IEEE Transactions on Biomedical Engineering* , vol. 67,
Chi Man Wong, Feng Wan, Boyu Wang, **Ze Wang**, Wenya Nan, Ka Fai Lao, Peng Un Mak, Mang I Vai, Agostinho Rosa, “Learning across multi-stimulus enhances target recognition methods in SSVEP-based BCIs,” *Journal of Neural Engineering* , vol. 17, p. 016026, 2020.

Books

Patents（selected）

Professional Certification and Awards

Champion of Event-Related Potentials-Based BCI Competition, 4th China BCI Competition, National Natural Science Foundation of China, Chinese Institute of Electronics, and Tsinghua University, 2020.
Second Prize, 3rd China BCI Competition, National Natural Science Foundation of China, and Chinese Institute of Electronics, 2019.

Student Awards

Professional Society Membership