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Last Update: Feb. 2019

- EDUCATION
- ◇ **Shanghai Jiao Tong University**, Shanghai, China.
Ph.D. in Computer Science and Technology, 2012-2018.
Thesis title: *Affective Brain-Computer Interactions*.
Advisor: Prof. Bao-Liang Lu
 - ◇ **South China University of Technology**, GuangZhou, China.
B.S. in Electrical Engineering, 2008-2012.
- EXPERIENCE
- ◇ **Massachusetts General Hospital, USA** (October 2018 -)
 - Research Fellow
 - Clinical Data Animation Center (CDAC), Department of Neurology
 - Working with Dr. M Brandon Westover, MD, PhD
 - ◇ **Harvard Medical School, USA** (October 2018 -)
 - Research Fellow
 - ◇ **Brain Science Institute, RIKEN, Japan** (June 2016 - September 2016)
 - Visiting Researcher
 - The Cichocki Laboratory for Advanced Brain Signal Processing
 - ◇ **University of the Basque Country, Spain** (September 2014 - March 2015)
 - Visiting Researcher
 - Intelligent Systems Group, Department of Computer Science and Artificial Intelligence
 - ◇ **Computational & Cognitive Neuroscience Summer School, China** (July 2013)
- RESEARCH INTERESTS
- Machine Learning, Clinical Healthcare, Affective Computing, Brain-Computer Interactions, Electroencephalography.
- RESEARCH PROJECTS
- ◇ Adaptive Level of Consciousness Prediction for ICU Patients Using EEG
 - ◇ Coma Prognostication of Patients after Cardiac Arrest Using EEG
 - ◇ Multimodal Emotion Recognition with EEG and Eye Movements
 - ◇ EOG and EEG-Based Vigilance Estimation and Prediction for Drivers
 - ◇ Personalizing EEG-based Affective Models with Transfer Learning
 - ◇ **Total Citations: 725, h-index: 15, i10-index: 18, from Google Scholar**
- PUBLICATION
- ◇ <https://scholar.google.com/citations?user=MZXXe8UAAAAJ&hl=en>
 - ◇ 2019

- **Wei-Long Zheng**, Kunpeng Gao, Gang Li, Wei Liu, Chao Liu, Jing-Quan Liu, Guoxing Wang, Bao-Liang Lu, Vigilance Estimation Using a Wearable EOG Device in Real Driving Environment. *IEEE Transactions on Intelligent Transportation Systems*, 2019.
 - Xun Wu, **Wei-Long Zheng**, Bao-Liang Lu, Identifying Functional Brain Connectivity Patterns for EEG-Based Emotion Recognition. To appear in the 9th International IEEE/EMBS Conference on Neural Engineering (NER), 2019.
 - Li-Ming Zhao, Rui Li, **Wei-Long Zheng**, Bao-Liang Lu, Classification of Five Emotions from EEG and Eye Movement Signals: Complementary Representation Properties. To appear in the 9th International IEEE/EMBS Conference on Neural Engineering (NER), 2019.
 - Tian-Hao Li, Wei Liu, **Wei-Long Zheng**, Bao-Liang Lu, Classification of Five Emotions from EEG and Eye Movement Signals: Discrimination Ability and Stability Over Time. To appear in the 9th International IEEE/EMBS Conference on Neural Engineering (NER), 2019.
- ◇ 2018
- **Wei-Long Zheng**, Wei Liu, Yifei Lu, Bao-Liang Lu, and Andrzej Cichocki, Emotion-Meter: A Multimodal Framework for Recognizing Human Emotions. *IEEE Transactions on Cybernetics*, 2018.
 - Wei Wu, QM Jonathan Wu, Wei Sun, Yimin Yang, Xiaofang Yuan, **Wei-Long Zheng**, Bao-Liang Lu, *IEEE Transactions on Cognitive and Developmental Systems*, 2018.
 - Yun Luo, Si-Yang Zhang, **Wei-Long Zheng**, Bao-Liang Lu. WGAN Domain Adaptation for EEG-Based Emotion Recognition. in *Proc. of the International Conference on Neural Information Processing (ICONIP2018)*, 2018: 275-286.
 - He Li, Yi-Ming Jin, **Wei-Long Zheng**, Bao-Liang Lu. Cross-Subject Emotion Recognition Using Deep Adaptation Networks. in *Proc. of the International Conference on Neural Information Processing (ICONIP2018)*, 2018: 275-286.
 - Li-Ming Zhao, Xin-Wei Li, **Wei-Long Zheng**, Bao-Liang Lu. Active Feedback Framework with Scan-Path Clustering for Deep Affective Models. in *Proc. of the International Conference on Neural Information Processing (ICONIP2018)*, 2018: 275-286.
 - Changde Du, Changying Du, Hao Wang, Jinpeng Li, **Wei-Long Zheng**, Bao-Liang Lu, Huiguang He (2018). Semi-supervised Deep Generative Modelling of Incomplete Multi-Modality Emotional Data. in *Proc. of the ACM Multimedia Conference on Multimedia Conference (ACM MM2018)*. 2018: 108–116.
 - He Li, **Wei-Long Zheng**, Bao-Liang Lu, Multimodal Vigilance Estimation with Adversarial Domain Adaptation Networks, in *Proc. of International Joint Conference on Neural Networks (IJCNN-18)*, 2018:1-6.
 - Jia-Jun Tong, Yun Luo, Bo-Qun Ma, **Wei-Long Zheng**, Bao-Liang Lu, Xiao-Qi Song, Shi-Wei Ma, Sleep Quality Estimation with Adversarial Domain Adaptation: From Laboratory to Real Scenario, in *Proc. of International Joint Conference on Neural Networks (IJCNN-18)*, 2018:1-8.
- ◇ 2017
- **Wei-Long Zheng** and Bao-Liang Lu, A multimodal approach to estimating vigilance using EEG and forehead EOG. *Journal of Neural Engineering*, 14(2): 026017, 2017.
 - **Wei-Long Zheng**, Jia-Yi Zhu, and Bao-Liang Lu, Identifying Stable Patterns over Time for Emotion Recognition from EEG, *IEEE Transactions on Affective Computing*, 2017.
 - Yimin Yang, Q. M. Jonathan Wu, **Wei-Long Zheng**, and Bao-Liang Lu, EEG-based emotion recognition using hierarchical network with subnetwork nodes, *IEEE Transactions on Cognitive and Developmental Systems*, 2017.

- Xue Yan, **Wei-Long Zheng**, Wei Liu, and Bao-Liang Lu, Identifying Gender Differences in Multimodal Emotion Recognition Using Bimodal Deep AutoEncoder, in Proc. of the International Conference on Neural Information Processing (ICONIP2017), 2017: 533-542.
 - Xue Yan, **Wei-Long Zheng**, Wei Liu, and Bao-Liang Lu, Investigating Gender Differences of Brain Areas in Emotion Recognition Using LSTM Neural Network, in Proc. of the International Conference on Neural Information Processing (ICONIP2017), 2017: 820-829.
 - Xing-Zan Zhang, **Wei-Long Zheng**, and Bao-Liang Lu, EEG-Based Sleep Quality Evaluation with Deep Transfer Learning, in Proc. of the International Conference on Neural Information Processing (ICONIP2017), 2017: 543-552.
 - Hao Tang, Wei Liu, **Wei-Long Zheng**, and Bao-Liang Lu, Multimodal Emotion Recognition Using Deep Neural Networks, in Proc. of the International Conference on Neural Information Processing (ICONIP2017), 2017: 811-819.
 - Wei-Ye Zhao, Sheng Fang, Ting Ji, Qian Ji, **Wei-Long Zheng**, Bao-Liang Lu, Emotion Annotation Using Hierarchical Aligned Cluster Analysis, in Proc. of the International Conference on Neural Information Processing (ICONIP2017), 2017: 572-580.
 - Si-Yuan Wu, Moritz Schaefer, **Wei-Long Zheng**, Bao-Liang Lu, Neural Patterns between Chinese and Germans for EEG-based Emotion Recognition, in Proc. of the 8th International IEEE EMBS Conference on Neural Engineering (IEEE NER2017), 2017: 94-97.
 - Zhen-Feng Shi, Chang Zhou, **Wei-Long Zheng** and Bao-Liang Lu, Attention Evaluation with Eye Tracking Glasses for EEG-based Emotion Recognition, in Proc. of the 8th International IEEE EMBS Conference on Neural Engineering (IEEE NER2017).
 - Li-Huan Du, Wei Liu, **Wei-Long Zheng** and Bao-Liang Lu, Detecting Driving Fatigue with Multimodal Deep Learning, in Proc. of the 8th International IEEE EMBS Conference on Neural Engineering (IEEE NER2017).
 - Yi-Ming Jin, Yu-Dong Luo, **Wei-Long Zheng**, Bao-Liang Lu, EEG-based Emotion Recognition Using Domain Adaptation Network, in Proc. of the International Conference on Orange Technology, 2017: 222-225.
- ◇ 2016
- **Wei-Long Zheng** and Bao-Liang Lu, Personalizing EEG-based Affective Models with Transfer Learning, in Proc. of the 25th International Joint Conference on Artificial Intelligence (IJCAI), 2016: 2732-3738.
 - **Wei-Long Zheng**, Jia-Yi Zhu, and Bao-Liang Lu, Identifying Stable Patterns over Time for Emotion Recognition from EEG, arXiv preprint arXiv:1601.02197 (2016).
 - **Wei-Long Zheng**, Shan-Chun Shen and Bao-Liang Lu, Online Depth Image-Based Object Tracking with Sparse Representation and Object Detection, Neural Processing Letters, pp. 1-14, 2016.
 - Wei Liu, **Wei-Long Zheng** and Bao-Liang Lu, Multimodal Emotion Recognition Using Multimodal Deep Learning, arXiv preprint arXiv:1602.08225 (2016).
 - Yong Peng, **Wei-Long Zheng** and Bao-Liang Lu, An unsupervised discriminative extreme learning machine and its applications to data clustering. Neurocomputing 174: 250-264 (2016).
 - Xue-Qin Huo, **Wei-Long Zheng**, and Bao-Liang Lu, Driving Fatigue Detection with Fusion of EEG and Forehead EOG, in Proc. of International Joint Conference on Neural Networks (IJCNN-16), 2016: 897-904.
 - Li-Li Wang, **Wei-Long Zheng**, Hai-Wei Ma and Bao-Liang Lu, Measuring Sleep Quality from EEG with Machine Learning Approaches, in Proc. of International Joint Conference on Neural Networks (IJCNN-16), 2016:905-912.

- Wei Liu, **Wei-Long Zheng**, and Bao-Liang Lu, Emotion Recognition Using Multimodal Deep Learning. in Proc. of the 23rd International Conference on Neural Information Processing (ICONIP2016), 2016: 521-529.
 - Nan Zhang, **Wei-Long Zheng**, Wei Liu, and Bao-Liang Lu, Continuous Vigilance Estimation using LSTM Neural Networks. in Proc. of the 23rd International Conference on Neural Information Processing (ICONIP2016), 2016: 530-537.
- ◇ 2015
- **Wei-Long Zheng**, and Bao-Liang Lu, Investigating Critical Frequency Bands and Channels for EEG-based Emotion Recognition with Deep Neural Networks, IEEE Transactions on Autonomous Mental Development (IEEE TAMD), vol. 7, no. 3, pp. 162-175, 2015. **(2018 IEEE TAMD Outstanding Paper Award)**
 - **Wei-Long Zheng**, Yong-Qi Zhang, Jia-Yi Zhu, and Bao-Liang Lu, Transfer Components between Subjects for EEG-based Emotion Recognition, in Proc. of the sixth International Conference on Affective Computing and Intelligent Interaction (ACII2015), 2015: 917-922.
 - Yifei Lu*, **Wei-Long Zheng***, Binbin Li, and Bao-Liang Lu, Combining Eye Movements and EEG to Enhance Emotion Recognition, in Proc. of the International Joint Conference on Artificial Intelligence (IJCAI'15), 2015:1170-1176. (*contributed equally as joint first authors)
 - **Wei-Long Zheng**, Roberto Santana, and Bao-Liang Lu, Comparison of classification methods for EEG-based emotion recognition, in Proc. of the 2015 World Congress on Medical Physics and Biomedical Engineering (WC'15). IFMBE, 2015: 1184-1187
 - Jia-Yi Zhu, **Wei-Long Zheng**, and Bao-Liang Lu. Cross-subject and Cross-gender Emotion Classification from EEG, in Proc. of the 2015 World Congress on Medical Physics and Biomedical Engineering (WC'15). IFMBE, 2015: 1188-1191
 - **Wei-Long Zheng**, Hao-Tian Guo, and Bao-Liang Lu, Revealing Critical Channels and Frequency Bands for EEG-based Emotion Recognition with Deep Belief Network, in Proc. of the 7th International IEEE EMBS Conference on Neural Engineering (IEEE NER'15). IEEE, 2015: 154-157.
 - Xiang-Yu Gao, Yu-Fei Zhang, **Wei-Long Zheng**, and Bao-Liang Lu, Evaluating Driving Fatigue Detection Algorithms Using Eye Tracking Glasses, in Proc. of the 7th International IEEE EMBS Conference on Neural Engineering (IEEE NER'15). IEEE, 2015: 767-770.
 - Yu-Fei Zhang, Xiang-Yu Gao, Jia-Yi Zhu, **Wei-Long Zheng**, and Bao-Liang Lu, A Novel Approach to Driving Fatigue Detection Using Forehead EOG, to appear in Proc. of the 7th International IEEE EMBS Conference on Neural Engineering (IEEE NER'15). IEEE, 2015: 707-710.
 - Yong-Qi Zhang, **Wei-Long Zheng**, and Bao-Liang Lu, Transfer Components between Subjects for EEG-based Driving Fatigue Detection, in Proc. of the 22rd International Conference of Neural Information Processing (ICONIP'15), 2015: 61-68.
- ◇ 2014
- **Wei-Long Zheng**, Jia-Yi Zhu, Yong Peng, and Bao-Liang Lu. EEG-Based Emotion Classification Using Deep Belief Networks. 2014 IEEE International Conference on Multimedia and Expo (ICME'14). IEEE, 2014: 1-6.
 - **Wei-Long Zheng**, Jia-Yi Zhu, and Bao-Liang Lu. Multimodal Emotion Analysis in Response to Multimedia. 2014 IEEE International Conference on Multimedia and Expo Workshops (ICMEW'14). IEEE, 2014: 1-2.
 - **Wei-Long Zheng**, Bo-Nan Dong, and Bao-Liang Lu. Multimodal Emotion Recognition using EEG and Eye Tracking Data. 2014 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'14). IEEE, 2014: 5040-5043.

- Yong Peng, Jia-Yi Zhu, **Wei-Long Zheng**, and Bao-Liang Lu. EEG-Based Emotion Recognition with Manifold Regularized Extreme Learning Machine. 2014 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'14). IEEE, 2014: 974-977. [poster]
- Jia-Yi Zhu, **Wei-Long Zheng**, Ruo-Nan Duan, Yong Peng and Bao-Liang Lu. EEG-based Emotion Recognition Using Discriminative Graph Regularized Extreme Learning Machine. 2014 International Joint Conference on Neural Networks (IJCNN'14). IEEE, 2014: 525-532.
- Xuemin Zhu, **Wei-Long Zheng**, Bao-Liang Lu, Xiaoping Chen, Shanguang Chen and Chunhui Wang. EOG-based Drowsiness Detection Using Convolutional Neural Networks. 2014 International Joint Conference on Neural Networks (IJCNN'14). IEEE, 2014: 128-134.
- Shan-Chun Shen, **Wei-Long Zheng**, and Bao-Liang Lu. Online Object Tracking based on Depth Image with Sparse Coding. the 21st International Conference of Neural Information Processing (ICONIP'14). 2014: 234-241.
- Simin Zhao, Xiangming Xu, **Weilong Zheng**, Jianwen Ling, Registration of Depth Image and Color Image Based on Harris-SIFT. IEEE 2012 Second International Conference on Electric Information and Control Engineering (ICEICE), 2012.

THESIS

- **Wei-Long Zheng**, "Affective Brain-Computer Interactions," Ph.D. Thesis (in English), Shanghai Jiao Tong University, 2018.
- **Wei-Long Zheng**, "A Study on Fatigue Detection under Complex Driving Environment," B.E. Thesis (in Chinese), South China University of Technology, 2012.

PATTERNS

- Bao-Liang Lu, **Wei-Long Zheng**, and Yifei Lu, "An EEG Feature Recognition System and Method", Application ID: 201710372387.7
- Bao-Liang Lu, **Wei-Long Zheng**, Zhen-Feng Shi, and Chang Zhou, "An Eye Movement Based EEG Experiment Evaluation System and Method", Application ID: 201710378148.2
- "A Method and System of Robot Navigation Based on Color Coding Identification", Second Applicant, Application ID: 201210289058.3. (Issued)
- "A Method of Key Frame Recognition in Video Stream", Second Applicant, Application ID: 201210480917.7. (Issued)

PROFESSIONAL Program Committee Member

SERVICE

- IJCAI 2019
- IJCAI 2018
- ◇ Journal Reviewer
 - IEEE Transactions on Affective Computing
 - IEEE Transactions on Cognitive and Developmental Systems
 - IEEE Transactions on Neural Networks and Learning Systems
 - Journal of Neural Engineering
 - IEEE Transactions on Biomedical Engineering
 - Journal of Biomedical and Health Informatics
 - IEEE Transactions on Intelligent Transportation Systems
 - International Journal of Information Technology and Decision Making
- ◇ Conference External Reviewer

- ISNN'19, IJCAI'18, ACII'17, ICONIP'16, ICONIP'15, ICONIP'14
- ◇ Member of IEEE (2019)
- ◇ Student Member of IEEE (2014-2018)
- ◇ Teaching Assistant for "Neural Network Theory and Applications (F033574)", Shanghai Jiao Tong University, Spring 2015, Spring 2016, Spring 2017

SCHOLARSHIPS
AND HONORS

- IEEE Transactions on Autonomous Mental Development Outstanding Paper Award, IEEE Computational Intelligence Society 2018
- Excellent Ph.D Student Scholarship of Yang Yuanqing Education Fund, SJTU 2016
- Ruth Mulan Chu Chao Ph.D Student Scholarship, Shanghai Jiao Tong University 2016
- National Scholarship for Graduate Student, Ministry of Education, China 2015
- Postgraduate Academic Excellence Scholarship of SJTU 2014
- Outstanding Graduate Scholarship in SCUT 2012
- Second-class scholarship in SCUT 2011
- National Scholarships Inspirational in SCUT 2010
- National Scholarships Inspirational in SCUT 2009

MEDIA
REPORT

- MIT Technology Review "How One Intelligent Machine Learned to Recognize Human Emotions" A View from Emerging Technology from the arXiv, January 23, 2016.
- Medical Physics Web IOP Publishing "Wearable device monitors driver vigilance", March 20, 2017.