Lu Zhang

Personal Data

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Education

Department of Computer Science and Engineering, University of Texas at Arlington 2018 – now
Ph.D in Computer Science and Engineering
Advisor: Dr. Dajiang Zhu

School of Computer Science, Northwestern Polytechnical University 2015 – 2018
M.S. in Computer Science and Technologys
Advisor: Dr. Xiaoan Li

School of Computer Science, Northwestern Polytechnical University 2011 – 2015
Bachelor in Computer Science and Technology

Experience

Research Assistant Jan. 2022 – now
Computer Science and Engineering
University of Texas at Arlington, Arlington, TX.

Teaching Assistant Jan. 2019 – Jan. 2022
Computer Science and Engineering
University of Texas at Arlington, Arlington, TX.

Research Assistant Sep. 2018 – Jan. 2019
Computer Science and Engineering
University of Texas at Arlington, Arlington, TX.

Research Interest

My research interests include the discovery of fundamental principles of brain structural and functional architectures and their relationship, via brain imaging, computational modeling and machine learning methods; Applying the discovered principles, theories and methods to better understand neurodevelopmental, neurodegenerative and psychiatric disorders including Autism, Alzheimer's disease. I am also interested in the interaction between Artificial Intelligence (AI) and Human Intelligence (HI): Using Deep Learning to facilitate the analysis and interpretation of brain data; Applying neuroscience knowledge to design more efficient Deep Learning architectures.

Publications

Conference Paper

4. **Lu Zhang**, Li Wang, and Dajiang Zhu. Recovering brain structural connectivity from functional connectivity via multi-gcn based generative adversarial network. *International Conference on Medical Image Computing and Computer-Assisted Intervention* (**MICCAI**), 2020. (**Young Scientist Award**)
3. **Lu Zhang**, Li Wang, and Dajiang Zhu. Jointly Analyzing Alzheimer's Disease Related Structure-Function Using Deep Cross-Model Attention Network. *IEEE 17th International Symposium on Biomedical Imaging* (**ISBI**), 2020. (**Oral**)

2. Li Wang, **Lu Zhang**, and Dajiang Zhu. Learning Latent Structure Over Deep Fusion Model of Mild Cognitive Impairment. *IEEE 17th International Symposium on Biomedical Imaging* (**ISBI**), 2020.

1. Li Wang, **Lu Zhang**, and Dajiang Zhu. Accessing Latent Connectome of Mild Cognitive Impairment via Discriminant Structure Learning. *IEEE 16th International Symposium on Biomedical Imaging* (**ISBI**), 2019.

Journal Paper

2. **Lu Zhang**, Li Wang and Dajiang Zhu. Predicting brain structural network using functional connectivity. *Medical Image Analysis*, 2022.

1. **Lu Zhang**, Li Wang, Jean Gao, Shannon L. Risacher, Jingwen Yan, Gang Li, Tianming Liu and Dajiang Zhu. Deep fusion of brain structure-function in mild cognitive impairment. *Medical Image Analysis*, 2021.

Workshop & Pre-print Paper

4. **Lu Zhang**, Xiaowei Yu, Yanjun Lyu, Zhengwang Wu, Haixing Dai, Lin Zhao, Li Wang, Gang Li, Tianming Liu and Dajiang Zhu. Representing Brain Anatomical Regularity and Variability by Few-Shot Embedding. *In arXiv preprint arXiv:2205.13644*, 2022.

3. **Lu Zhang**, Li Wang and Dajiang Zhu. Representing Alzheimer's Disease Progression via Deep Prototype Tree. *In arXiv preprint arXiv:2102.06847*, 2021.

2. **Lu Zhang**, Akib Zaman, Li Wang, Jingwen Yan and Dajiang Zhu. A Cascaded Multi-Modality Analysis in Mild Cognitive Impairment. *10th International Workshop on Machine Learning in Medical Imaging held in Conjunction with MICCAI* (**MLMI**), 2019.

1. Akib Zaman, **Lu Zhang**, Jingwen Yan and Dajiang Zhu.Multi-Modal Image Prediction via Spatial Hybrid U-Net. *1st International Workshop on Multiscale Multimodal Medical Imaging held in Conjunction with MICCAI* (**MMMI**), 2019.(**Best Oral Paper**)

Awards and Honours

MICCAI 2020 Young Scientist Award	2020
MICCAI 2020 Student Travel Award	2020
UTA Doctoral Student Research and Travel Grant Award	2019

Talks

Invited talk about "Brain Structural and Functional Networks" at Harvard Medical School	06/2022
Invited talk about "Hierarchical Semantic Tree Embedding for Image Understanding" (UTA CSE 6363)	04/2022
Invited talk about "Recurrent Neural Network and Transformer" (UTA CSE 6363)	11/2021
Invited talk about "Some Thoughts on My PhD Training" at University of Texas at Arlington	05/2021

Professional Services

Conference Reviewer

Reviewer of ISBI2021, MICCAI 2020-2022, ICML 2022

Journal Reviewer

Cerebral Cortex

IEEE Transactions on Neural Networks

Frontiers in Human Neuroscience

Journal of Biomedical and Health Informatics

Frontiers in Computational Neuroscience

Bioscience Reports