

# Lu Zhang

## PERSONAL DATA

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## EDUCATION

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**Department of Computer Science and Engineering, University of Texas at Arlington** 2018 – now

*Ph.D in Computer Science and Engineering*

*Advisor: Dajiang Zhu, Ph.D.*

**School of Computer Science, Northwestern Polytechnical University**

2015 – 2018

*M.S. in Computer Science and Technologys*

*Advisor: Xiaoan Li, Ph.D.*

**School of Computer Science, Northwestern Polytechnical University**

2011 – 2015

*B.S. in Computer Science and Technology*

## EXPERIENCE

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**Research Assistant**

Jan. 2022 – now

*Department of Computer Science and Engineering*

*University of Texas at Arlington, Arlington, TX.*

**Teaching Assistant**

Jan. 2019 – Jan. 2022

*Department of Computer Science and Engineering*

*University of Texas at Arlington, Arlington, TX.*

**Research Assistant**

Sep. 2018 – Jan. 2019

*Department of Computer Science and Engineering*

*University of Texas at Arlington, Arlington, TX.*

## RESEARCH INTEREST

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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

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### 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

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

## TALKS

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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	03/2021

## 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