Xiang "Shaun" Li

Current Position: Postdoc Research Fellow at the Clinical Data Science Center, Harvard Medical School and Massachusetts General Hospital.

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EDUCATION, ACADEMIC POSITIONS:

September 2016-Present:

Postdoc research fellow at the Clinical Data Science Center, Harvard Medical School and Massachusetts General Hospital. Advisor: James H. Thrall, MD, and Associate Professor Quanzheng Li.

Research on developing machine learning methods such as advanced deep learning schemes for medical image analysis. Developing image analysis solutions for assisting clinical practices and computer-aided detection.

August 2009-2016:

MS/PhD student and research assistant of the Department of Computer Science, University of Georgia, Athens, GA. Advisor: Professor Tianming Liu.

Research on big data analytics and solution design on neuroimaging data, multimodal brain connectivity analysis, functional and structural characterization of mental disorders.

June 2015-August 2015:

Visiting student of the Department of Computational Medicine and Bioinformatics, University of Michigan, Ann Arbor, MI. Advisor: Associate Professor Jieping Ye.

Algorithm design and implementation for fast and scalable machine learning methods for knowledge discovery on big neuroimaging data.

September 2014-December 2014:

Visiting scientist of the Allen Institute for Brain Science, Seattle, WA. Advisor: Associate Investigator Hanchuan Peng.

Development of the interactive segmentation toolkit based on Vaa3D for high-resolution biomedical imaging analysis.

August 2009-May 2010:

Research assistant of the Department of Psychology, University of Georgia. Advisor: Associate Professor Dean Sabatinelli.

Software implementation and hardware setting for fMRI-EEG data analysis and experiment control, helped in performing brain MRI scans.

August 2006-July 2009:

Lab assistant of the Environmental Protection Key Laboratory, Nankai University, Tianjin, China.

June 2002-June 2006:

BEng., Automation, School of Electronic and Electric Engineering, Shanghai Jiaotong University, Shanghai, China.

LIST OF AWARDS:

UGA Computer Science Department Outstanding Graduate Dissertation/Thesis, 2016.

Franklin Foundation Travel Award, 2015.

Nomination of Best Student Paper Award in *ISBI* 2013.

Nomination of Best Student Paper Award in *ISBI* 2011.

ACADEMIC EXPERIENCE:

Oral Presentation at *IEEE International Symposium on Biomedical Imaging* (*ISBI*) 2011, 2013, 2014, poster Presentation at *ISBI* 2015, 2018.

Poster Presentation at *International Conference on Medical Image Computing & Computer Assisted Intervention* (*MICCAI*) 2011, 2017.

Invited workshop talk at Brain Informatics & Health 2016 (*BIH*) 2016.

Poster Presentation at Association for Computing Machinery's Special Interest Group on Knowledge Discovery and Data Mining (*ACM KDD*) 2016.

Poster Presentation at Organization for Human Brain Mapping (*OHBM*) 2013.

Program committee member for the *BioImage Informatics Conference*, *MICCAI workshop of Patch-based Techniques in Medical Imaging*.

Reviewer for conferences including *ISBI*, *MICCAI*, *MLMI* and *ICME*.

Editorial board for *Journal of Healthcare Engineering*.

Reviewer for *Neuroimaging*, *BMC Bioinformatics*, *Pattern Recognition*, *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, *Symmetry*, *Physical Communication*, *IEEE Transactions on Biomedical Engineering*, *Neurocomputing*.

SELECTED JOURNAL PUBLICATIONS:

A Distributed Computing Platform for fMRI Big Data Analytics. **IEEE Transactions on Big Data**, 2018.

Artificial Intelligence and Machine Learning in Radiology: Opportunities, Challenges, Pitfalls, and Criteria for Success. **Journal of the American College of Radiology**, 2018.

Spatio-temporal modeling of connectome-scale brain network interactions via time-evolving graphs. **Neuroimage**, 2017.

Characterizing and Differentiating Task-based and Resting State FMRI Signals via Two-stage Sparse Representations. **Brain Imaging and Behavior**, 2016.

Temporal Dynamics Assessment of Spatial Overlap Pattern of Functional Brain Networks Reveals Novel Functional Architecture of Cerebral Cortex. **IEEE Transactions on Biomedical Engineering**, 2016.

Holistic Atlases of Functional Networks and Interactions Reveal Reciprocal Organizational Architecture of Cortical Function. **IEEE Transactions on Biomedical Engineering**, 2015.

Sparse Representation of Whole-brain FMRI Signals for Identification of Functional Networks. **Medical Image Analysis**, 2015.

Sparse representation of HCP grayordinate data reveals novel functional architecture of cerebral cortex. **Human Brain Mapping**, 2015.

Identifying and characterizing resting state networks in temporally dynamic functional connectomes. **Brain Topography**, 2014.

Inferring Functional Interaction and Transition Patterns via Dynamic Bayesian Variable Partition Models. **Human Brain Mapping**, 2014.

Dynamic Functional Connectomics Signatures for Characterization and Differentiation of PTSD Patients. **Human Brain Mapping**, 2014.

The timing and directional connectivity of human frontoparietal and ventral visual attention networks in emotional scene perception. **Neuroscience**, 2014.

Detecting Brain State Changes via Fiber-Centered Functional Connectivity Analysis. **Neuroinformatics**, 2013.

SELECTED CONFERENCE PRESENTATIONS:

RBC Semantic Segmentation for Sickle Cell Disease Based on Deformable U-Net. **MICCAI** 2018.

Medical Image Segmentation Based on Multi-Modal Convolutional Neural Network: Study on Image Fusion Schemes. **ISBI** 2018.

Deep Learning Algorithm for rapid automatic detection of pneumothorax on chest CT. **ARRS** 2018.

Self-paced Convolutional Neural Network for Computer Aided Detection in Medical Imaging Analysis. **MLMI** 2017.

Template-guided Functional Network Identification via Supervised Dictionary Learning. **ISBI** 2017.

Distributed rank-1 dictionary learning: Towards fast and scalable solutions for fMRI big data analytics. **IEEE International Conference on Big Data** 2016.

Scalable Fast Rank-1 Dictionary Learning for fMRI Big Data Analysis. **ACM SigKDD** 2016.

Modeling Functional Network Dynamics via Multi-Scale Dictionary Learning and Network Continuums. **ISBI** 2016.

Multiple-Demand System Identification and Characterization Via Sparse Representations of Fmri Data. **ISBI** 2016.

Interactive Exemplar-based Segmentation Toolkit for Biomedical Image Analysis. **ISBI** 2015.

Detecting cell assembly interaction patterns via Bayesian based change-point detection and graph inference model. **ISBI** 2014.

Discovering Common Functional Connectomics Signatures. **ISBI** 2013.

Characterization of task-free/task-performance brain states. **MICCAI 2012.**

Fiber-centered Granger Causality Analysis. **MICCAI** 2011.