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*, and *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*, and *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.