XIULIN WANG

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Personal

Male, born on March 3, 1990 in Yucheng, China, Chinese citizen.

Current residence: Helvintie 2f/5a, Jyväskylä, Finland

Education

2017.09~present, Ph.D candidate. Mathematical Information Technology, Faculty of Information Technology, University of Jyväskylä, Finland. Supervisor: Prof. Tapani Ristaniemi, Prof. Fengyu Cong.

2016.09~present, Ph.D candidate. Biomedical engineering, School of Biomedical Engineering, Faculty of Electronic Information and Electrical Engineering, Dalian University of Technology, China.
Supervisor: Prof. Tapani Ristaniemi, Prof. Fengyu Cong.

2012.09~2015.06, M.E. Signal and Information Processing, School of Information and Communication Engineering, Faculty of Electronic Information and Electrical Engineering, Dalian University of Technology, China. Supervisor: Prof. Xiaofeng Gong.
Thesis title: Research on Methods of Multi-set Joint Blind Source Separation

2008.09~2012.06, B.E. Communication Engineering. School of Mechanical, Electrical & Information Engineering, Shandong University, Weihai, China.

Research Interests

Current research: Joint analysis of multiple datasets, and its applications in the image, audio, neuroscience, biomedical engineering, machine learning and data mining. My research target is to develop new high-efficient algorithms, and provide versatile software toolboxes. Specifically:
1. Matrix factorization/Tensor decomposition
2. Coupled/Linked/Joint matrix/tensor decomposition
3. Signal processing(e.g. brain, image, audio etc.)
4. Machine learning and data mining

Early research:
Blind source separation/Joint blind source separation

Work experience

2017.10~present, doctoral student, Faculty of Information Technology, University of Jyväskylä

2015.07~2016.07, DSP Engineer. Beijing Huiqing Techology Co., Ltd, China.
Development, design and testing of DSP module of high-frequency backpack radios/multi-frequency handheld radios. Programing language: C/C++/Matlab

2013.03~2015.06, Teaching Assistant. Dalian University of Technology, Dalian, China.
Duties include tutoring undergraduates to complete graduation designs and thesis.

Publications

Xiulin Wang, Fengyu Cong and Tapani Ristaniemi. Joint blind source separation based on group nonnegative matrix factorization with sparse regularization. *28th European Signal Processing Conference (EUSIPCO)*, Amsterdam, Netherlands, 2021.

Xiulin Wang, Wenya Liu, Tapani Ristaniemi and Fengyu Cong. Group Analysis of Ongoing EEG Data Based on Fast Double-Coupled Nonnegative Tensor Decomposition. *Journal of Neuroscience Methods*, 2020, 330, pp.108502.

Xiulin Wang, Tapani Ristaniemi and Fengyu Cong. Fast Double-coupled Nonnegative Tensor Decomposition. *The Signal Processing with Adaptive Sparse Structured Representations (SPARS) workshop*, 2019. (abstract paper, poster).

Xiulin Wang, Tapani Ristaniemi, Fengyu Cong. Fast Implementation of Double-coupled Nonnegative Canonical Polyadic Decomposition. *44th International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Brighton, United Kingdom, 2019. (Poster)

Xiulin Wang, Chi Zhang, Tapani Ristaniemi, Fengyu Cong. Generalization of Linked Canonical Polyadic Tensor Decomposition for Group Analysis. *16th International Symposium on Neural Networks (ISNN)*, Moscow, Russia, 2019.

Xiaofeng Gong, **Xiulin Wang**, Qiuhua Lin. Generalized Non-orthogonal Joint Diagonalization with LU Decomposition and Successive Rotations. *IEEE Transaction on Signal Processing*, 2015, 63(5), pp. 1322-1334. (Supervisor: Prof. Xiaofeng Gong). We also published corresponding matlab toolbox with the source codes: GNJD_Software_Package, version 1.0, January 2015.

Xiulin Wang, Xiaofeng Gong, and Qiuhua Lin. A Study on Parallelization of Successive Rotation Based Joint Diagonalization. *19th International Conference on Digital Signal Processing (DSP)*, Hong Kong, China, 2014. (Oral presentation)

Academic activities

The 45th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Virtual Barcelona, Spain, May 4-8, 2020.

The 7th Annual Research Seminar of CIBR. December 11, 2019. Jyväskylä, Finland

The Signal Processing with Adaptive Sparse Structured Representations (SPARS) workshop, Toulouse, France, July 1-4, 2019

The 44th International Conference on Acoustics, Speech and Signal Processing (ICASSP), Brighton, United Kingdom, May 12-15, 2019.

MEG Nord 2019, May 8-10, 2019. Jyväskylä, Finland.

AI Health days-Seminar on Artificial Intelligence and Healthcare. January 16, 2019, Jyväskylä, Finland.

The 6th Annual Research Seminar of CIBR. December 13, 2018. Jyväskylä, Finland.

EURASIP Summer School. Tensor-Based Signal Processing, organised by Dr. Lieven De Lathauwer and Dr. Sabine Van Huffel. August 27-31, 2018, KU Leuven, Belgium. (Poster)

The 28th Jyväskylä Summer School, August 6-17, 2018, Jyväskylä, Finland.

The 19th International Conference on Digital Signal Processing (DSP), Hong Kong, China, 2014.

Research funding

China Government Scholarship, from China Scholarship Council, 2017.10∼2019.9

COMAS Research Fellowship, University of Jyväskylä, 2019.10∼2020.9