Miaoyan Wang

Assistant Professor of Statistics

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| Fudan University | China | Mathematics | B.S. 2010 |
|  |  | Computer Science | 2006-2007 |
| University of Chicago | USA | Statistics | PhD, 2015 |
| University of Pennsylvania | USA | Mathematics and Biology | Simons Math+X Postdoc, 2017 |
| UC Berkeley | USA | Computer Science | Postdoc 2018 |
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**(a) Professional preparation**

**(b) Appointment**

2018 - Present, Assistant Professor, Department of Statistics, University of Wisconsin–Madison

**(c) Ten Selective Publications** (Students under my supervision are underlined)

**(i)** C. Lee and  **M. Wang.**Tensor denoising and completion based on ordinal observations. International Conference on Machine Learning (ICML). In press, 2020.

**M. Wang** and Y. Zeng. Multiway clustering via tensor block models. Advances in Neural Information Processing Systems 32 (NeurIPS), 715-725, 2019

**M. Wang**, J. Fischer, and Y. S. Song. Three-way Clustering of Multi-tissue Gene Expression Data Using Semi-Nonnegative Tensor Decomposition. Annals of Applied Statistics. Vol. 13, No. 2, 1103-1127, (2019).

**M. Wang**, K. Dao Duc, J. Fischer, and Y.S. Song. Operator Norm Inequalities Between Tensor Unfoldings on the Partition Lattice. Linear Algebra and its Applications, Vol.520, 44-66, (2017).

**M. Wang** and Y. S. Song. Tensor Decomposition via Two-Mode Higher-Order SVD (HOSVD). Proceeding of Machine Learning Research, Vol 54, 614-622, (2017).

**(ii)** **M. Wang**, F. Roux, C. Bartoli, C. H.-Chauveau, C. Meyer, H. Lee, D. Roby, M. S. McPeek, and J. Bergelson. Two-Way Mixed-Effects Methods for Joint Association Analyses Using Both Host and Pathogen Genomes. Proc. Natl. Acad. Sci. (direct submission), Vol. 115 (24), E5440-E5449, (2018).

D. Jiang and **M. Wang**. Recent Developments in Statistical Methods for GWAS and High-throughput Sequencing Studies of Complex Traits. Biostatistics & Epidemiology. Vol. 40, No. 6, 446–460, (2018).

**M. Wang**, J. Jakobsdottir, A. V. Smith, and M. S. McPeek. G-STRATEGY: Optimal Selection of Individuals for Sequencing in Genetic Association Studies. Genetic Epidemiology, Vol. 40, No. 6, (2016) 446-60. **Highlighted as Editor’s Pick Paper of this issue.**

**M. Wang** and L. Li. Learning from Binary Multiway Data: Probabilistic Tensor Decomposition and Its Statistical Optimality. Revision submitted to Journal of Machine Learning Research.

B. W. Engelmann, Y. Kim, **M. Wang**, B. Peters, R. S. Rock, and P. D. Nash. The Development and Application of a Quantitative Peptide Microarray Platform to Protein Interaction Domain Specificity Space. Molecular and Cellular Proteomics, Vol. 13, No. 12 (2014) 3647-62.

**(d) Synergistic Activities**

• Member in Women in Probability, Institute of Mathematical Statistics, Society for Industrial and Applied Mathematics, American Society of Human Genetics. 2014 – now.

• Organizer for European Society for Evolution Biology workshop, International Conference on Frontier of Data Science, 2019.

• Reviewer for Journal of the American Statistical Association (JASA), NeurIPS, and Linear Algebra and application, and other applied math/statistics/genetics journals, 2014 – now.

• Statistical Consultant. Provided statistical support for the larger university community at the University of Chicago. 2012-2015.

**(e) Current PhD students**

Chanwoo Lee (2019 - ): BS in Mathematics and Statistics, Seoul National University, 2018.

Jiaxin Hu (2020 - ): BS/MS in Statistics, Wuhan University, 2020.

Yuchen Zeng (2019 - ): current a PhD student in CS at UW-Madison.

Zhuoyan Xu (2019 -): current a PhD student in Statistics at UW-Madison.

**(f) Recent Talks**

**Department Seminars:** Columbia University, Stanford University, UC Berkeley, University of Chicago, CMU, Columbia University, University of Toronto, Fudan University, East China Normal University, Duke University, Johns Hopkins University, Queen’s University, University of Massachusetts Amherst, University of Pennsylvania, Boston University.

**Conference and Industrial Talks:** Eastern North American Region (ENAR), International Conference on Frontiers of Data Science, European Society for Evolutionary Biology, Institute of Mathematical Statistics (IMS), Society for Industrial and Applied Mathematics (SIAM), Joint Statistical Meeting (JSM), American Society of Human Genetics (ASHG), International Genetic Epidemiology Society (IGES).

**Industrial Research Lab Talks:** Bosch Center for Artificial Intelligence, Takeda Pharmaceutical.

**(g) Research Impact and Outreach**

• Developed 8 open-source software packages for analyzing tensor datasets in genomics and neuroimaging.

• Faculty feature article ``Women in STEM: 5 Thoughtful Ways to Recruit and Retain Them’’ in Course Hero.

• Won Charles J. Epstein Trainee Award for Excellence in Human Genetics Research –semifinalist (27 protectoral recipients out of 550 candidates), 2014

• Won Williams Award for Best Platform Presentation by Graduate Students – finalist (3 out of 156) in International Genetic Epidemiology Society (IGES), 2013.

• Runner-up for Department of Statistics Consulting Award (ranked as #2 among all PhD students in the departmental vote of 2014). Department of Statistics, The University of Chicago.

• Madison Teaching and Learning Excellence (MTLE) Fellow, 2019 -2020.