# Meimei Liu

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## **WORKING EXPERIENCE**

Assistant Professor		Department of Statistics, Virginia Tech, Aug 2020 -		
EDUCA	TION			
Postdoc	Statistics	Duke University Mentor: Dr. David Dunson	2018 - 2020	
Ph.D.	Statistics	Purdue University Advisor: Dr. Guang Cheng and Dr. Zuofeng Shang Thesis topic: Computational limit of nonparametric inferen data.	2013 - 2018 nce for massive	
M.S.	Statistics	University of Science and Technology of China (USTC) Advisor: Dr. Weiping Zhang Thesis topic: Statistical inference for joint semiparametric m model in longitudinal data.	2013 ean-covariance	
B.S.	Mathematics	Anhui University, China	2010	

#### **RESEARCH INTEREST**

**Deep learning**: graph embedding, variational autoencoding with application in neuroscience. **Bayesian data analysis**: bayesian latent space model, bayesian nonparametric model.

Learning theory: stochastic gradient descent inference, variational inference.

Big data analysis: domain adaptation, random projection, divide-and-conquer, active learning.

Semi/Non-parametric inference: kernel ridge regression, partially linear regression.

### **PUBLICATIONS**

- [1] **Meimei Liu**, Zuofeng Shang, Guang Cheng. *Nonparametric distributed learning under general designs*. Electronic Journal of Statistics 14.2 (2020): 3070-3102.
- [2] Xin Xing, **Meimei Liu**, Wenxuan Zhong, Ping Ma. *Minimax Nonparametric Parallelism Test*. Journal of Machine Learning Research 21.94 (2020): 1-47.
- [3] Meimei Liu, Zuofeng Shang, Guang Cheng. Sharp Theoretical Analysis for Nonparametric Testing under Random Projection. Conference on Computational Learning Theory (COLT) 2019, in Proceedings of Machine Learning Research 99:2175-2209.

- [4] Meimei Liu, Guang Cheng. *Early Stopping for Nonparametric Testing*. Advances in Neural Information Processing Systems 31 (NeurIPS 2018), 3985–3994.
- [5] Meimei Liu, Jean Honorio, Guang Cheng. Statistically and computationally efficient variance estimator for kernel ridge regression. 2018 56th Annual Allerton Conference on Communication, Control, and Computing (Allerton), IEEE, 1005-1011.
- [6] Meimei Liu, Guang Cheng. (2017) Discussion on "Random-projection ensemble classification" by Timothy I. Cannings and Richard J. Samworth. Journal of the Royal Statistical Society: Series B (Statistical Methodology) (2017), 79, 1016-1019.
- [7] **Meimei Liu**, Guang Cheng. (2018) *Discussion on "Double sparsity kernel learning with automatic variable selection and data extraction"* Statistics and its Inference, Volume 11 (2018) 423-424.
- [8] **Meimei Liu**, Weiping Zhang. (2015) Bayesian Joint Semiparametric Mean-Covariance Modeling for Longitudinal Data, Acta Mathematica Applicatae Sinica.
- [9] Xin Xing, Meimei Liu, Weiping Zhang. (2014) Joint Semiparametric Mean-Covariance modeling by Moving Average Cholesky Decomposition for Longitudinal Data, Journal of University of Science and Technology of China, 43(8), 607-621.

#### PAPERS UNDER REVIEW

- Meimei Liu, Zuofeng Shang, Yun Yang, Guang Cheng. Nonparametric testing under random projection. IEEE Transactions on Pattern Analysis and Machine Intelligence, under major revision. arXiv:1802.06308
- [2] **Meimei Liu**, David Dunson. (2020) *Domain Adaptive Bootstrap Aggregation* Journal of Machine Learning Research, under review.arXiv:2001.03988
- [3] Meimei Liu, Zhengwu Zhang, David Dunson. (2019) *Auto-encoding Graph-valued Data with Applications to Brain Connectomes.* Journal of Machine Learning Research, under review. arXiv:1911.02728
- [4] **Meimei Liu**, Hongxia Yang, David Dunson. (2019) *DVE: Dynamic Variational Embeddings with Applications in Recommender Systems*. Technical report.
- [5] **Meimei Liu**, Xianli Zeng, Guang Cheng. (2019) *Parametric impact on nonparametric component for partially linear regression*. Biometria, submitted.

#### HONORS AND AWARDS

Cagiantas Fellowship, Purdue University	2017-2018	
Frederick N. Andrews Fellowship, Purdue University	2013-2017	
NeurIPs Travel Award	2018	
COLT Travel Award	2019	
NVIDIA GPU Grant for Accelerated Data Science	2019	

#### **CONFERENCES & INVITED TALKS**

- Department of Statistics, University of Wisconsin Madison, Feb 2020 (Invited Talk)
- Department of Statistics, University of Pittsburg, Feb 2020 (Invited Talk)
- Department of Statistics, University of Georgia, Jan 2020 (Invited Talk)
- Department of Mathematics, NJIT, Jan 2020 (Invited Talk)
- Department of Mathematics, Tulane University, Feb 2020 (Invited Talk)
- Department of Scientific Computing, Florida State University, Feb 2020 (Invited Talk)

- Department of Mathematics, Univiersity of Texas, Dallas, Jan 2020 (Invited Talk)
- 2019 Conference of Learning Theory, Phoenix, Arizona, June 2019 (Talk)
- Department of Statistics and Data Science, University of Central Florida, Feb 2018 (Invited talk)
- Department of Mathematics and Statistics, UNC Greensboro, NC, Feb 2018 (Invited talk)
- ICSA 2018, New Jersey, June 2018, (Invited talk)
- Notre Dame Summer Conference, Aug 2017 (Invited talk)
- ICSA 2016, Atlanta, GA, June 2016 (Invited talk)
- Department of Mathematical Sciences, Binghamton University, Sept 2016 (Invited talk)

## TEACHING AND STATISTICAL CONSULTING

CMDA 2005 Instructor: Integrated Quantitative Science, Virginia Tech	Fall, 2020
STAT 611 Instructor : Introduction to Mathematical Statistics, Duke	Fall, 2019
STAT 611 Instructor: Introduction to Mathematical Statistics, Duke	Fall, 2018
STAT 532 TA : Elements of Stochastic Processes, Purdue University	2017
STAT 301 TA : Elementary Statistical Methods, Purdue University	Fall, 2015
STAT 350 TA : Introduction to Statistics, Purdue University	Fall, 2015
Consultant : Statistical Consulting Service, Purdue University	2016

## **PROGRAMMING SKILLS**

R, Python, Pytorch, SAS.

## **REFEREE SERVICE**

Journal of American Statistical Association, Statistic Sinica, IEEE-TPDS, NeurIPS, Journal of Machine Learning Research, Technometrics, Computational Statistics and Data Analysis.

## **PROFESSIONAL SERVICE**

Member, American Statistical Association Member, International Chinese Statistical Association Member, Association for Computational Learning Member, Women in Machine Learning

## **VOLUNTEER SERVICE**

Volunteer for 2019 Conference of Learning Theory, Phoenix, AZ Volunteer for Early Preschool Education Community, Durham, NC