Xueying Tang

Department of Mathematics
The University of Arizona
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Education

- B.S. in Mathematics and Applied Mathematics, Peking University, Beijing, China, July 2011
    - Advisor: Dr. Jingping Yang
- M.S. in Statistics, University of Florida, Gainesville, FL, December 2013
    - Advisor: Dr. Nikolay Bliznyuk
    - Thesis: A Bayesian Spatio-Temporal Model for the Transmission of Infectious Diseases with Multiple Pathogens
- Ph.D. in Statistics, University of Florida, Gainesville, FL, August 2017
    - Advisors: Dr. Malay Ghosh and Dr. Nikolay Bliznyuk
    - Dissertation: Bayesian Analysis Under Shrinkage Priors

Employment

- Postdoctoral Research Scientist, Department of Statistics, Columbia Univeristy, July 2017 – June 2019
    - Advisors: Dr. Jingchen Liu and Dr. Zhiliang Ying
- Assistant Professor, Department of Mathematics, University of Arizona, August 2019 – present
- Affiliate Member, Applied Mathematics Graduate Interdisciplinary Program, University of Arizona, September 2019 – present
- Member, Statistics & Data Science Graduate Interdisciplinary Program, University of Arizona, November 2019 – present

Publications

Refereed Journal Articles

1. Ghosh, P., **Tang, X.**, Ghosh, M., and Chakrabarti, A. (2016). Asymptotic Properties of Bayes Risk for a General Class of Shrinkage Priors in Multiple Hypothesis Testing under Sparsity, *Bayesian Analysis*, 11(3), 753–796.

2. **Tang, X.**, Li, K., Ghosh, M. (2017). Bayesian Multiple Testing Under Sparsity for Polynomial-Tailed Distributions. *Statistica Sinica*, 27, 1225–1242.

3. **Tang, X.**, Xu, X., Ghosh, M., and Ghosh, P. (2018). Bayesian Variable Selection and Estimation Based on Global-local Shrinkage Priors, *Sanhkya A*, 80(2), 215–246.

4. **Tang, X.**, Ghosh, M., Ha, N. S., and Sedransk, J. (2018). Modeling Random Effects Using Global-Local Shrinkage Priors in Small Area Estimation. *Journal of the American Statistical Association*, 113, 1476–1489.

5. **Tang, X.**, Chen, Y., Li, X., Liu, J., and Ying, Z. (2019) A Reinforcement Learning Approach to Personalized Learning Recommendation System. *British Journal of Mathematical and Statistical Psychology*, 72, 108–135.

6. **Tang, X.**, Yang, Y., Yu, H., Liao, Q., and Bliznyuk, N. (2019) A Spatio-Temporal Modeling Framework for Surveilance Data of Multiple Infectious Pathogens with Small Validation Sets. *Journal of the American Statistical Association.* 114, 1561–1573.

7. Merrill, H. R., **Tang, X.**, and Bliznyuk, N. (2019) Spike-and-Slab Variable Selection for Spatio-Temporal Additive Regression Models. *Stochastic Environmental Research and Risk Assessment. Stochastic Environmental Research and Risk Assessment*, 33, 1075–1087.

8. **Tang, X.**, Wang, Z., Liu, J., He, Q., and Ying, Z. (2020) Latent Feature Extraction for Process Data Using Multidimensional Scaling. *Psychometrika*, 85, 378–397.

9. Wang, Z., **Tang, X.**, and Liu, J. (2020) Asymptotic Analysis of Large-Scale Multi-Relational Network Through Latent Variable Modeling. *Frontiers in Applied Mathematics and Statistics.* doi: 10.3389/fams.2020.540225.

10. **Tang, X.**, Wang, Z., Liu, J., and Ying, Z. (2021) An Exploration of Process Data by Action Sequence Autoencoder. *British Journal of Mathematical and Statistical Psychology.* 74, 1–33.

11. **Tang, X.**, Wang, Z., Zhang, S., Liu, J., and Ying, Z. (2021) ProcData: An R Package for Process Data Analysis. *Psychometrika.* Accepted.

Software

1. **Tang, X.**, Zhang, Susu, Wang, Z., Liu, J., and Ying, Z. (2020) R package `ProcData`.

Work in Progress

1. Wang, Z., **Tang, X.**, Liu, J., and Ying, Z. Subtask Analysis of Process Data Through a Predictive Model. *Submitted.*

2. Zhang, S., **Tang, X.**, Wang, Z., Liu, J., and Ying, Z. Understanding the Characteristics from Process Data: An Empirical Analysis of PSTRE Items in PIAAC. *Submitted.*

3. Lippitt, W., Sethuraman, S., and **Tang, X.** Stick-Breaking Stationary Measures in Multistate Promoter Stochastic Gene Expression Networks. *Submitted.*

4. Zhu, Z., **Tang, X.** Bayesian Shrinkage with Log-Cauchy Priors. *In preparation.*

5. **Tang, X.**, Liu, J., and Ying, Z. Response Process Signature. *In preparation.*

6. **Tang, X.**, Liu, J., and Ying, Z. Process Data Profiling. *In preparation.*

7. **Tang, X.** A Hidden Markov Model for Identifying Problem Solving Strategies in Process Data. *In preparation.*