Summer Readings
— Selected Faculty Publications 2021 - 2022

Department of Statistics, Columbia University
July 2022
(Prepared by Disa Yu and Tian Zheng)

1. Medina, M. A., Olea, J. L. M., Rush, C., & Velez, A. (2022). On the Robustness to Misspecification of α-posteriors and Their Variational Approximations. Journal of Machine Learning Research, 23(147), 1-51. https://www.jmlr.org/papers/v23/21-0386.html

2. Nazaret, A., & Blei, D. (2022, June). Variational Inference for Infinitely Deep Neural Networks. In International Conference on Machine Learning (pp. 16447-16461). PMLR. https://proceedings.mlr.press/v162/nazaret22a.html

3. Chong, C., Delerue, T., and Li, G.: Mixed semimartingales: Volatility estimation in the presence of rough noise. Submitted, 2021. https://ssrn.com/abstract=3878809.

4. Wu, L., Pleiss, G., & Cunningham, J. (2022). Variational Nearest Neighbor Gaussian Processes. arXiv preprint arXiv:2202.01694. https://arxiv.org/abs/2202.01694

5. Davis, R., & Ng, S. (2022). Time series estimation of the dynamic effects of disaster-type shocks. Journal of Econometrics. https://www.sciencedirect.com/science/article/pii/S0304407622000665

6. Aurell, A., Carmona, R., Dayanikli, G., & Lauriere, M. (2022). Optimal incentives to mitigate epidemics: a Stackelberg mean field game approach. SIAM Journal on Control and Optimization, 60(2), S294-S322. https://epubs.siam.org/doi/abs/10.1137/20M1377862

7. de la Pena, V., Doukhan, P., & Salhi, Y. (2022). A Dynamic Taylor's law. Journal of Applied Probability, 59(2), 584-607. https://www.cambridge.org/core/journals/journal-of-applied-probability/article/dynamic-taylors-law/DCBA159835EF36828CA13F83A4102FD2

8. Gelman, A., & Vehtari, A. (2021). What are the most important statistical ideas of the past 50 years?. Journal of the American Statistical Association, 116(536), 2087-2097. https://www.tandfonline.com/doi/abs/10.1080/01621459.2021.1938081

9. Gu, Y. (2022). Blessing of Dependence: Identifiability and Geometry of Discrete Models with Multiple Binary Latent Variables. arXiv preprint arXiv:2203.04403. https://arxiv.org/abs/2203.04403

10. Kpotufe, S., Yuan, G., & Zhao, Y. (2022, May). Nuances in Margin Conditions Determine Gains in Active Learning. In International Conference on Artificial Intelligence and Statistics (pp. 8112-8126). PMLR. https://proceedings.mlr.press/v151/kpotufe22a.html

11. Kwon, Y., Rivas, M. A., & Zou, J. (2021, March). Efficient computation and analysis of distributional Shapley values. In International Conference on Artificial Intelligence and Statistics (pp. 793-801). PMLR. https://proceedings.mlr.press/v130/kwon21a.html

12. Lo, S. H., & Yin, Y. (2021). A novel interaction-based methodology towards explainable AI with better understanding of Pneumonia Chest X-ray Images. Discover Artificial Intelligence, 1(1), 1-17. https://link.springer.com/article/10.1007/s44163-021-00015-z

13. Zhang, S., Wang, Z., Qi, J., Liu, J., & Ying, Z. (2021). Accurate assessment via process data. arXiv preprint arXiv:2103.15034. https://arxiv.org/abs/2103.15034

14. Ma, J., Xu, J., & Maleki, A. (2021). Analysis of sensing spectral for signal recovery under a generalized linear model. Advances in Neural Information Processing Systems, 34, 22601-22613. https://proceedings.neurips.cc/paper/2021/hash/becc353586042b6dbcc42c1b794c37b6-Abstract.html

15. Margossian, C. C., & Mukherjee, S. (2021). Simulating Ising and Potts models at critical and cold temperatures using auxiliary Gaussian variables. arXiv preprint arXiv:2110.10801. https://arxiv.org/abs/2110.10801

16. Nutz, M., & Wiesel, J. (2022). Stability of Schrödinger Potentials and Convergence of Sinkhorn's Algorithm. arXiv preprint arXiv:2201.10059. https://arxiv.org/abs/2201.10059

17. Chen, S., Loper, J., Zhou, P., & Paninski, L. (2022). Blind demixing methods for recovering dense neuronal morphology from barcode imaging data. PLOS Computational Biology, 18(4), e1009991. https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1009991

18. Protter, P., & Quintos, A. (2022). Optimal group size in microlending. Annals of Finance, 18(1), 121-132. https://link.springer.com/article/10.1007/s10436-020-00382-0

19. Robbins, J. (2022) D3 for R Users. https://jtr13.github.io/d3book

20. Hsieh, K., Rush, C., & Venkataramanan, R. (2022). Near-Optimal Coding for Many-User Multiple Access Channels. IEEE Journal on Selected Areas in Information Theory, 3(1), 21-36. https://ieeexplore.ieee.org/abstract/document/9733034/

21. Ghosal, P., & Sen, B. (2022). Multivariate ranks and quantiles using optimal transport: Consistency, rates and nonparametric testing. The Annals of Statistics, 50(2), 1012-1037. https://projecteuclid.org/journals/annals-of-statistics/volume-50/issue-2/Multivariate-ranks-and-quantiles-using-optimal-transport--Consistency-rates/10.1214/21-AOS2136.short

22. da Silva, P. H., Jamshidpey, A., & Tavaré, S. (2022). The Feller Coupling for random derangements. Stochastic Processes and their Applications, 150, 1139-1164. https://www.sciencedirect.com/science/article/pii/S0304414921001459

23. van Delft, A., & Dette, H. (2021). A similarity measure for second order properties of non-stationary functional time series with applications to clustering and testing. Bernoulli, 27(1), 469-501. https://projecteuclid.org/journals/bernoulli/volume-27/issue-1/A-similarity-measure-for-second-order-properties-of-non-stationary/10.3150/20-BEJ1246.short

24. Backhoff, J., Bartl, D., Beiglböck, M., & Wiesel, J. (2022). Estimating processes in adapted Wasserstein distance. The Annals of Applied Probability, 32(1), 529-550. https://projecteuclid.org/journals/annals-of-applied-probability/volume-32/issue-1/Estimating-processes-in-adapted-Wasserstein-distance/10.1214/21-AAP1687.short

25. Chen, Y., Li, X., Liu, J., & Ying, Z. (2021). Item Response Theory--A Statistical Framework for Educational and Psychological Measurement. arXiv preprint arXiv:2108.08604. https://arxiv.org/abs/2108.08604

26. Auddy, A., & Yuan, M. (2021). On Estimating Rank-One Spiked Tensors in the Presence of Heavy Tailed Errors. arXiv preprint arXiv:2107.09660. https://arxiv.org/abs/2107.09660

27. Wu, J., Ward, O. G., Curley, J., & Zheng, T. (2022). Markov-modulated Hawkes processes for modeling sporadic and bursty event occurrences in social interactions. The Annals of Applied Statistics, 16(2), 1171-1190. https://projecteuclid.org/journals/annals-of-applied-statistics/volume-16/issue-2/Markov-modulated-Hawkes-processes-for-modeling-sporadic-and-bursty-event/10.1214/21-AOAS1539.short

28. Zhong, C. (2021). Mallows permutation models with $ L^ 1$ and $ L^ 2$ distances I: hit and run algorithms and mixing times. arXiv preprint arXiv:2112.13456. https://arxiv.org/abs/2112.13456