Prateek Jaiswal

Email: jaiswalp@tamu.edu Phone: +1 (765) 409-5910

EDUCATION

Purdue University, West Lafayette, Indiana Aug 2016-Aug 2021
Ph.D., School of Industrial Engineering
Dissertation: "Variational Inference for Data-Driven Stochastic Programming"
Committee: Dr. Harsha Honnappa, Dr. Vinayak A. Rao, Dr. Raghu Pasupathy, Dr. Gesualdo Scutari, and Dr. J. George Shanthikumar

Indian Institute of Technology, Patna, India Aug 2008- May 2012
B. Tech. in Mechanical Engineering

RESEARCH INTERESTS

• Bandits & reinforcement learning • Data-driven decision making • Stochastic optimization • Bayesian Statistics • Machine learning • Large deviations analysis • Causal Inference

PUBLICATIONS

1. Jaiswal, P., Pati, D.; Bhattacharya, A.; and Mallick, B.K. "Generalized Regret Analysis of Thompson Sampling using Fractional Posteriors", *Submitted.*
   Finalist (top 4) at INFORMS 2022 Data Mining Best Paper Competition (General Track)
   2022 Joe Newton Best Poster Award at Conference on Advances in Data Science: Theory, Methods and Computation

2. Jaiswal, P., Rao, V.A.; and Honnappa, H. "Asymptotic Consistency of $\alpha-$Rényi-Approximate Posteriors", *Journal of Machine Learning Research, (156):1- 42, 2020.*

3. Jaiswal, P., Honnappa, H., and Rao, V.A. "Asymptotic Consistency of Loss-calibrated Variational Bayes", *Stat 9, no. 1 (2020): e258.*

4. Jaiswal, P., Honnappa, H., and Rao, V.A. "Bayesian Joint Chance Constrained Optimization: Approximations and Statistical Consistency", *SIAM Journal of Optimization, Vol. 33, No. 3, pp. 1968–1995*
   Shorter version published in Proceedings of The 2nd Symposium on Advances in Approximate Bayesian Inference, PMLR 118:1-12, 2020.

5. Jaiswal, P., and Honnappa, H. ' Statistical Inference for Approximate Bayesian Optimal Design'.*In Proceedings of the 2020 Winter Simulation Conference, Piscataway, NJ, 2020. Institute of Electrical and Electronics Engineers, Inc.*

6. Wang R., Jaiswal, P., and Honnappa, H. 'Estimating Stochastic Poisson Intensities Using Deep Latent Models'.*In Proceedings of the 2020 Winter Simulation Conference, Piscataway, NJ, 2020. Institute of Electrical and Electronics Engineers, Inc.*

7. Jaiswal, P., Honnappa, H., and Rao, V.A. "Risk-sensitive Variational Bayes: Formulation and Bounds", *Under submission.*
Shorter version accepted at NeurIPS 2019 workshop on Safety and Robustness in Decision Making.

8. Jaiswal, P., Honnappa, H., and Pasupathy, R. 'Optimal Allocations for Sample Average Approximation '.*In Proceedings of the 2018 Winter Simulation Conference, Piscataway, NJ, 2018. Institute of Electrical and Electronics Engineers, Inc.*

9. Jaiswal, P. and Larson, J. "Multistart Algorithm for Identifying All Optima of a Nonconvex Stochastic Oracle". *Under review at Optimization Letters.*

WORKING PAPERS

10. Honnappa, H., Pasupathy, R ; and Jaiswal, P. "Dominating Points of Gaussian Extremes", *Under major revision at Journal/Advances in Applied Probability.*

11. Jaiswal, P., Honnappa, H., and Rao, V.A. "Variational Inference for Diffusion Modulated Cox Processes",

CONFERENCE PRESENTATIONS/ POSTERS

- Jaiswal, P., Pati, D.; Bhattacharya, A.; and Mallick, B.K. "Generalized Regret Analysis of Thompson Sampling using Fractional Posteriors" - *INFORMS Annual Meeting - Oct 2022.*

- Jaiswal, P., Pati, D.; Bhattacharya, A.; and Mallick, B.K. "Generalized Regret Analysis of Thompson Sampling using Fractional Posteriors" - *TTIC Summer Workshop: New Models in Online Decision Making for Real-World Applications - July 2022.*

- Jaiswal, P., Honnappa, H. "Statistical Inference for Approximate Bayesian Optimal Design", *Winter Simulation Conference (Virtual)- Dec 2020.*

- Jaiswal, P., Honnappa, H. "Variational Inference for Bayes Optimal Design", *INFORMS Annual Meeting (Virtual) - Nov 2020.*

- Jaiswal, P., Honnappa, H., and Rao, V.A. "Variational Inference for Risk-Sensitive Decision-Making", *NeurIPS Workshop on Safety and Robustness in Decision Making - Dec 2019.*

- Jaiswal, P., Honnappa, H., and Rao, V.A. "Variational Bayesian method for Stochastically Constrained System Design Problem", *INFORMS Annual Meeting - Oct 2019.*

- Jaiswal, P., Honnappa, H., and Rao, V.A. "Variational Bayesian method for Stochastically Constrained System Design Problem", *The 13^{th} Young European Queueing Theorists (YEQT) workshops, EURANDOM, TU Eindhoven, The Netherlands - Oct 2019.*

- Jaiswal, P., Honnappa, H., and Rao, V.A. "Variational Bayes for Data-Driven Newsvendor Problem", *Conference on Data Science for Business and Economics, Purdue University, West Lafayette, IN, USA - May 2018.*

EXPERIENCE

- **Postdoctoral Research Associate, TAMU-FIDS & Department of Statistics, Texas A&M University**, Sep 2021-present. Advisors: Dr. Bani K. Mallick, Dr. Anirban Bhattacharya, Dr. Debdeep Pati

- **Graduate Research Assistant, Stochastic Systems Lab, Purdue University**, May 2017 - May 2020. Advisors: Dr. Harsha Honnappa and Dr. Vinayak A. Rao
- **Givens Associate, Argonne National Laboratory, Lemont, IL**, May 2020 - Aug 2020. PI: Dr. Mohan Krishnamoorthy
- **Givens Associate, Argonne National Laboratory, Lemont, IL**, May 2019 - Aug 2019. PI: Dr. Jeffrey M. Larson
- **Assistant Manager, Bharat Petroleum Corp. Ltd. (BPCL), India**, July 2012 - Jul 2016.
- **Research Assistant, CACM, University of Auckland, NZ**, May - July. 2011.
  PI: Prof. Debes Bhattacharyya

SKILLS

Python (Pacakges: PyTorch, SciPy, NumPy, scikit-learn) • Matlab (Toolboxes: Deep Learning, Optimization, SIMOPT, Statistical and Machine Learning) • R (Statistical and optimization packages) • LaTeX/ MS-Office • C/C++ • Version Control (Git, Bitbucket) • High Performance Computing (Clusters: Purdue RCAC- Brown and Argonne National Lab- Powell)

ACADEMIC SERVICE

Journal Reviewer: JMLR, JASA, and IISE Transactions
Conference Reviewer: ICML, NeurIPS, and AISTATS

AWARDS

- Finalist (top 4) at INFORMS 2022 Data Mining Best Paper Competition (General Track)
- Joe Newton Best Poster Award at 2022 Conference on Advances in Data Science: Theory, Methods and Computation
- Awarded Sustainable Horizons Institute grant to attend the SIAM CSE21 conference and Broader Engagement (BE) program.
- Awarded PGSG Travel grant to attend INFORMS 2020 and NeurIPS 2020.