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Assistant Prof, Deptt. of CS, Purdue University

Publications

- *Geometric Rates of Convergence for Kernel-based Sampling Algorithms*. Rajiv Khanna, Liam Hodgkinson, Michael Mahoney. **UAI 2021**
- *LocalNewton: Reducing Communication Bottleneck for Distributed Learning*. Vipul Gupta, Avishek Ghosh, Michal Derezinski, Rajiv Khanna, Ramchandran Kannan, Michael Mahoney. **UAI 2021**
- *Bayesian Coresets: Revisiting the Non-convex Optimization Perspective*. Yibo Zhang, Rajiv Khanna, Anastasios Kyrillidis, Oluwasanmi Koyejo. **(AISTATS 2021 oral)**
- *Adversarially-Trained Deep Nets Transfer Better*. Francisco Utrera, Evan Kravitz, N. Benjamin Erichson, Rajiv Khanna, Michael W. Mahoney. (**ICLR 2021**)
- *Improved guarantees and a multiple-descent curve for the CSSP and the Nystrom method*. Michal Derezinski, Rajiv Khanna, Michael Mahoney**. (NeurIPS 2020 Best Paper Award)**
- *Rethinking Adversarial Examples and Non-robust Features*. Yaoqing Yang, Rajiv Khanna Amir Gholami, Xinyi Hu, Joseph Gonzalez, Ramchandran Kannan, Kurt Keutzer, Michael Mahoney (**NeurIPS 2020)**
- *On Linear Convergence of Weighted Kernel Herding*. Rajiv Khanna, Michael Mahoney**. (Arxiv report)**
- *Learning Sparse Distributions using Iterative Hard Thresholding*. Yibo Zhang, Rajiv Khanna, Anastasios Kyrillidis, Oluwasanmi Koyejo. **NeurIPS 2019**
- *Interpreting Black Box Predictions using Fisher Kernels*. Rajiv Khanna, Been Kim, Joydeep Ghosh, Oluwasanmi Koyejo. **AISTATS 2019**
- *Boosting Black Box Variational Inference*. Francesco Locatello, Gideon Dresdner, Rajiv Khanna, Isabel Valera, Gunnar Rätsch. **NeurIPS 2018**
- *Restricted Strong Convexity implies Weak Submodularity*. Ethan Elenberg, Rajiv Khanna, Alex Dimakis, Sahand Neghaban. Accepted to **Annals of Statistics 2018** (a shorter version appeared in **NeurIPS 2016** Workshop on Learning in High Dimensions with Structure).
- *Provable Accelerated Iterative Hard Thresholding*. Rajiv Khanna, Anastasios Kyrillidis. **AISTATS 2018**
- *Boosting Variational Inference: An Optimization Perspective*. Francesco Locatello, Rajiv Khanna, Joydeep Ghosh, Gunnar Raetsch. **AISTATS 2018** (a shorter version appeared at **NeurIPS 2017** workshop on Approx. Inference)
- *Co-regularized Monotone Retargeting for Semi-supervised LeTOR*. Shalmali Joshi, Rajiv Khanna, Joydeep Ghosh. **SDM 2018**
- *On Approximation Guarantees for Greedy Low Rank Optimization.* Rajiv Khanna, Ethan Elenberg, Alex Dimakis, Joydeep Ghosh, Sahand Neghaban. **ICML 2017**
- *Scalable Greedy Support Selection via Weak Submodularity.* Rajiv Khanna, Ethan Elenberg, Alex Dimakis, Sahand Neghaban, Joydeep Ghosh. **AISTATS 2017**
- *Information Projection and Approximate Inference for Structured Sparse Variables.* Rajiv Khanna, Joydeep Ghosh, Russell Poldrack, Oluwasanmi Koyejo **AISTATS 2017**
- *A Unified Analysis of Frank Wolfe and Matching Pursuit.* Francesco Locatello, Rajiv Khanna, Michael Tschannen, Martin Jaggi **AISTATS 2017**
- *Pursuits in Structured Non-Convex Matrix Factorizations.* Rajiv Khanna, Francesco Locatello, Michael Tschannen, Martin Jaggi. Arxiv Report.
- *A Deflation Method for Structured Probabilistic PCA.* Rajiv Khanna, Joydeep Ghosh, Russell A. Poldrack, Oluwasanmi Koyejo **SDM 2017**
- *Examples are not Enough, Learn to Criticize! Criticism for Interpretability.* Been Kim*, Rajiv Khanna*, Oluwasanmi Koyejo*. **NeurIPS 2016 (Oral)**
- T*owards a Better Understanding of Predict and Count Models.* S. Sathiya Keerthi, Tobias Schnabel, Rajiv Khanna. Arxiv report.

- *Sparse Submodular Probabilistic PCA.* Rajiv Khanna, Joydeep Ghosh, Russell A. Poldrack, Oluwasanmi O. Koyejo **AISTATS 2015 (Oral)**
- *A Deflation Method for Probabilistic PCA.* Rajiv Khanna, Joydeep Ghosh, Russell A. Poldrack, Oluwasanmi Koyejo. **NIPS 2015** Workshop on Advances in Approximate Bayesian Inference.
- *On Prior Distributions and Approximate Inference for Structured Variables.* Oluwasanmi O. Koyejo, Rajiv Khanna, Joydeep Ghosh, Russell A. Poldrack **NIPS 2014**
- *Parallel Matrix Factorization for Binary Response.* Rajiv Khanna, Deepak Agarwal, Liang Zhang and Beechung Chen. **IEEE BigData 2013**
- *Estimating Rates of Rare Events with Multiple Hierarchies through Scalable Log-linear Models*. Deepak Agarwal*; Rahul Agrawal*; Rajiv Khanna*; Nagaraj Kota*. **KDD 2010**
- *Translating Relevance Scores to Probabilities for Contextual Advertising*. Deepak Agarwal*; Evgeniy Gabrilovich*; Rob Hall*; Vanja Josifovski*; Rajiv Khanna*. **CIKM 2009**
- *Structured Learning for Non-Smooth Ranking Losse*s. Soumen Chakrabarti, Rajiv Khanna, Uma Sawant, Chiru Bhattacharyya. **KDD 2008**

Awards

- **Best Paper Award at NeurIPS 2020 (Top 3 out of over 9400 submissions)**
- **Simons-Berkeley Research Fellowship (Fall 2018)**
- **Awarded Phillips Scholarship and 'most outstanding student' (top-1) of 2008 Masters (CS) IIT Bombay**

Professional Experience

Program Committee/ Reviewer : ICML 2022, Neurips 2021, ICML2021, AISTATS 2020, NeurIPS 2020, ICML 2020, AAAI 2020, ICLR 2020, NeurIPS 2019, AAAI 2019, CVPR 2019, ICML2019, ICCV 2019, AISTATS 2019, NeurIPS 2018, ICML2018, NeurIPS 2017, ICML2017, NeurIPS 2016, WWW 2017, Workshop on Advances in Approx. Bayesian Inference (NeurIPS) 2015/2016/2017/2018.

- Google Research (Fall 2021) -- Visiting Researcher
- UC Berkeley (Spring 2019 – Spring 2021) – Postdoc at Dept of Statistics (Mentor: Michael Mahoney)
- Simons Institute at UC Berkeley (Fall 2018) **-** Research Fellow in the program for Foundations of Data Science.
- ETH Zurich (Summer 2015) -- Generalized Pursuit algorithms. (Mentor: Martin Jaggi)
- Microsoft Research (Summer 2014) – Summer Intern (Mentor: Sathiya Keerthi)
- LinkedIn Inc. (Summer 2013) – Summer Intern (Mentor: Liang Zhang/Deepak Agarwal)
- Research Engineer at Yahoo! Labs Bangalore (July 2008-July 2012) – Full time employee, worked on web scale click prediction, recommendation systems, modeling skewed data, information corroboration

Education

University of Texas at Austin – PhD (ECE) 2018
Indian Institute of Technology Bombay – Masters in Technology (CS) 2008
National Institute of Technology Jallandhar – Bachelors in Technology (CS) 2006

References

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