Pratik Nag

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https://scholar.google.com/citations?user=rMB6VwYAAAAJhl=enoi=ao | https://pratiknag.com/

Education

King Abdullah University of Science and Technology *Saudi Arabia*

PHD STATISTICS *2020 - 2024*

• Advisor: Dr. Ying Sun

Indian Statistical Institute *India*

MS QUALITY MANAGEMENT SCIENCE *2017 - 2019*

University of Calcutta *India*

BS STATISTICS *2014 - 2017*

Professional Experience

2024 - now	**Research Fellow**, Computational Statistics, University of Wollongong, Australia
2022 - 2024	**Graduate Teaching Assistant**, Statistics, King Abdullah University of Science and Technology
2019-2020	**Data Science Specialist**, General Electric Healthcare

Publications

PUBLISHED

Pratik Nag, Ying Sun, Brian J Reich. *Bivariate DeepKriging for Computationally Efficient Spatial Interpolation of Large-scale Wind Fields*, Technometrics (Jan, 2025), 1–12. https://doi.org/10.1080/00401706.2025.2453197

Pratik Nag, Sameh Abdulah, Yiping Hong, Ghulam Qadir, Ying Sun, Marc G. Genton. *Efficient Large-scale Nonstationary Spatial Covariance function estimation using Convolutional Neural Networks*, Journal of Computational and Graphical Statistics (JCGS) (Sep, 2024), 1-22, https://doi.org/10.1080/10618600.2024.2402277.

Arnab Hazra, **Pratik Nag**, Rishikesh Yadav, Ying Sun. *Exploring the Efficacy of Statistical and Deep Learning Methods for Large Spatial Datasets: A Case Study*, JABES (2024). https://doi.org/10.1007/s13253-024-00602-4 (Joint first authorship)

Pratik Nag, Ying Sun, Brian J Reich. *Spatio-temporal DeepKriging for interpolation and probabilistic forecasting*, Spatial Statistics (Oct, 2023), volume. 57, 100773, DOI 10.1016/j.spasta.2023.100773.

Sameh Abdulah, Faten Alamri, **Pratik Nag**, Ying Sun, Hatem Ltaief, David E. Keyes, Marc G. Genton. *The Second Competition on Spatial Statistics for Large Datasets*, J. data sci. 20(2022), no. 4, 439-460, DOI 10.6339/22-JDS1076.

Qinglei Cao, Sameh Abdulah, Rabab Alomairy, Yu Pei, **Pratik Nag**, George Bosilca, Jack Dongarra et al. *Reshaping geostatistical modeling and prediction for extreme-scale environmental applications.* In 2022 SC22: International Conference for High Performance Computing, Networking, Storage and Analysis (SC), pp. 13-24. IEEE Computer Society, 2022. (Finalist for GORDON BELL PRIZE)

IN REVIEW

Pratik Nag. *Unrolled Creative Adversarial Network For Generating Novel Musical Pieces.* arXiv preprint arXiv:2501.00452 (Dec, 2024).

IN PREP

Pratik Nag, Andrew Zammit Mangion, Ying Sun. *Spatial Normalizing flows*.

Pratik Nag, Noel Cressie. *Fourier Neural Operators for Space-Time Forecasting*.

Awards, Fellowships

2024	**Al-Kindi Student Research Award**, King Abdullah University of Science and Technology	*$ 1000*
2023	**2023 KAUST Competition on Spatial Statistics for Large Datasets**, King Abdullah University of Science and Technology	*Winner sub-competition 1b and 2a*
2022	**CEMSE Dean's List Award**, King Abdullah University of Science and Technology	*$ 2,500*
2022	**2022 KAUST Competition on Spatial Statistics for Large Datasets**, King Abdullah University of Science and Technology	*Winner sub-competition 2a and 2b*

Presentations

INVITED PRESENTATIONS

Pratik Nag. Feb 2025. DeepKriging for Large-Scale Complex Spatial and Spatio-Temporal Processes. Joint Research Centre, European Commission: Ispra, Italy

CONTRIBUTED PRESENTATIONS

Pratik Nag, Ying Sun, Brian J Reich. August 2023. Spatio-temporal DeepKriging for interpolation and probabilistic forecasting. JSM 2023: Toronto, Ontario. Canda

Pratik Nag, Sameh Abdulah, Yiping Hong, Ghulam Qadir, Ying Sun, Marc G. Genton. August 2022. Efficient Large-scale Nonstationary Spatial Covariance function estimation using Convolutional Neural Networks. JSM 2022: Washington, DC. USA

Pratik Nag, Ying Sun, Brian J Reich. Dec 2021. Bivariate DeepKriging for Large-scale Spatial Interpolation of Wind Fields. CMStatistics 2021: King's College, London, United Kingdom.

Teaching Experience

Fall 2023	**STAT 210/MOI: Statistics and Machine learning with Python**, Recitation and teaching assistantship to Ministry of interior students	
Fall 2022	**STAT 210: Statistics and data analysis with R**, Teaching Assistant	

Outreach & Professional Development

SERVICE AND OUTREACH

2023	**KAUST ASA student chapter**, Strategic advisor	
2022	**KAUST ASA student chapter**, Web master	

DEVELOPMENT

KAUST Statistics workshop 2023

PROFESSIONAL MEMBERSHIPS

Member of American Statistical Association
Member of Statistical Society of Australia