

Curriculum Vitae

Dr. Sumit Kumar

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Current Academic Position

Jun, 2023 - **Assistant Professor**, Department of Statistics, University of Delhi, Delhi-11007, India.
Continue

Research Interests

- Statistical Quality Control
- Bayesian Inference
- Reliability Analysis
- Applied Statistics
- Data Analysis
- Survival Analysis

Academic Qualification

- 2020 **Doctor of Philosophy in Statistics**, Central University of Rajasthan, Ajmer.
Title- "Some Problems on Process Capability Studies: Statistical Inference and Applications"
- 2014 **Master of Science**, C.C.S. University, Meerut.
Specialization in Statistics
- 2012 **Bachelor of Science**, C.C.S. University, Meerut.
Physics, Statistics, Mathematics

Academic Honors

Qualified UGC- National Eligibility Test in 2022.

Membership of Profession Bodies

Life time membership of **Indian Society of Probability and Statistics (ISPS)**.

Experience

- Dec, 2021 - **Assistant Professor**, Department of Mathematics, Chandigarh University, Mohali, Punjab, India.
Jun, 2023
- Sep, 2020 - **Assistant Professor**, Department of Engineering and Physical Sciences, Institute of Advanced Research, Gandhinagar, Gujarat, India.
Dec, 2021

Research Grant

- 2024 Received Research Grant of 5 (Lakh) under **Faculty Research Programme (FRP)** of the Institution of Eminence, University of Delhi, Delhi-110007.

Invited Lecture/Talks

- 2024 Delivered lecture in National Faculty Development Program on "Advanced Statistical Techniques for Academic Excellence in Data Analytics (FDP ASTAEDA-2024)" held from 22-28 October, 2024, at CHRIST (Deemed to be University), Bangalore, Yashwanthpur Campus.
- 2021 Delivered 3 day lecture's series (18-22 June, 2021) on Design Project-I (Statistical methods) for the course M.Des. at NID Ahmadabad, Gujarat.

UG/PG Project

- 2023 Supervised four UG Students in Minor Project of 6 Credit entitled "Predicting stock price with Data" at Department of Mathematics, Chandigarh University Mohali, Punjab.

Book Chapter

- 2021 **Kumar S.** (2021). Classical and Bayesian Estimation of the Process Capability Index C_{py} Based on Lomax Distributed. In Yadav D.K. (Eds.), Advance Research Trends in Statistics and Data Science (pp. 115-131). MKSES Publication (**ISBN-978-81-949305-4-9**).

Published/Accepted Papers

- 2025 Saha, M., **Kumar S.**, Pareek, P., Doodwal, G., and Meena, B. (2025). Parametric confidence intervals of generalized process capability index for finite mixture distributions. International Journal of System Assurance Engineering and Management. (**Scopus, ESCI**) **IF-1.6**
- 2023 Tyagi, S., Agiwal, V., **Kumar S.**, and Chesneau, C. (2023). Theory and practice of a bivariate trigonometric Burr XII distribution. Afrika Matematika, 34(3), 49. (**Scopus, ESCI**) **IF-0.9**
- 2023 Dey, S., Saha, M., Anis, M. Z., Maiti, S. S., and **Kumar S.** (2023). Estimation and confidence intervals of $CNp(u, v)$ for logistic-exponential distribution with application. International Journal of System Assurance Engineering and Management, 14(Suppl 1), 431-446. (**Scopus, ESCI, UGC-CARE**) **IF-1.6**
- 2022 Tyagi S., **Kumar S.**, Pandey A., Saha M. and Bagariya H. (2022). Power xgamma distribution: Properties and its applications to cancer data. International Journal of Statistics and Reliability Engineering. 9(1), 51-60. (**UGC-CARE**)
- 2022 **Kumar S.**, Saha, M. and Tyagi S. (2022). Parametric confidence intervals of generalized process capability index and its applications. Life Cycle Reliability and Safety Engineering. 1-11.

- 2022 **Kumar, S.** (2022). Classical and the Bayesian estimation of process capability index C_{py} : A comparative study. *Journal of Reliability and Statistical Studies*, 15(01), 153–186. **(Scopus, WOS, ESCI) IF-0.9.**
- 2021 Yadav, A. S., Saha, M., Tripathi, H., and **Kumar, S.** (2021). The Exponentiated XGamma Distribution: a New Monotone Failure Rate Model and Its Applications to Lifetime Data. *Statistica*, 81(3), 303–334. **(Scopus,ESCI)**
- 2021 **Kumar S.**, Yadav, A. S., Dey, S., and Saha, M. (2021). Parametric inference of generalized process capability index C_{pyk} for the power Lindley distribution. *Quality Technology & Quantitative Management*, 19(2), 1-34. **(Scopus, SCIE) IF-2.3.**
- 2021 Saha M., Dey S., and **Kumar S.** (2021). Parametric confidence intervals of S_{pmk} for generalized exponential distribution. *American Journal of Mathematical and Management Sciences*, 40(2), 1-22. **(Scopus)**
- 2020 **Kumar, S.**, & Saha, M. (2020). Estimation of Generalized Process Capability Indices C_{py} for Poisson Distribution. *Invertis Journal of Management*, 12(2), 123-130.
- 2020 Saha M., **Kumar S.**, and Sahu R. (2020). Comparison of two generalized process capability indices by using bootstrap confidence intervals. *International Journal of Statistics and Reliability Engineering*. 7(1), 187-195. **(UGC-CARE)**
- 2019 **Kumar, S.**, Dey, S., & Saha, M. (2019). Comparison between two generalized process capability indices for Burr XII distribution using bootstrap confidence intervals. *Life Cycle Reliability and Safety Engineering*, 8(4), 347-355.
- 2019 Saha, M., Dey, S., Yadav, A. S., & **Kumar, S.** (2019). Classical and Bayesian inference of C_{py} for generalized Lindley distributed quality characteristic. *Quality and Reliability Engineering International*, 35(8), 2593-2611. **(Scopus, SCIE,WOS) IF-2.3.**
- 2019 Saha, M., **Kumar, S.**, Maiti, S. S., Singh Yadav, A., & Dey, S. (2019). Asymptotic and Bootstrap Confidence Intervals for the Process Capability Index C_{py} Based on Lindley Distributed Quality Characteristic. *American Journal of Mathematical and Management Sciences*, 39(1), 75-89. **(Scopus)**
- 2018 Saha, M., **Kumar, S.**, Maiti, S. S., & Yadav, A. S. (2018). Asymptotic and bootstrap confidence intervals of generalized process capability index C_{py} for exponentially distributed quality characteristic. *Life Cycle Reliability and Safety Engineering*, 7(4), 235-243.
- 2017 Singh, J., Singh, N., Singh, A. & **Kumar, S.** (2017). Growth Performance and Regional Variation of Industrial Sector in India: Experience of Post Liberalisation. *International Journal of Research in Economics and Social Sciences*, 7(11), 782-792.
- 2016 **Kumar, S.**, & Singh, J. (2016). Forecasting of Pulses Production in India: Application of UCM Model. *International Journal in Management and Social Science*, 4(7), 2321-1784.

Faculty Development Program / Refresher Course/ Induction/Orientation Programme

- 2023 Interdisciplinary Refresher Course on Advanced Research Methodology, Teaching Learning Centre Ramanujan College, University of Delhi, Delhi.

- 2023 Faculty Induction/Orientation Programme on Faculty in Universities/Colleges/Institutes of Higher Education, Teaching Learning Centre Ramanujan College, University of Delhi, Delhi.
- 2023 FDP on Recent Tools and Techniques for Quality Research-RTTQR 2023, Banasthali Vidyapith - Jaipur, Rajasthan.
- 2021 FDP on Introductory Data Science and Deep Learning, International Institute of Information Technology - Naya Raipur.
- 2020 Recent Trends and Future Opportunities on Deep Learning, Central University of Rajasthan, Ajmer.
- 2020 FDP on Data Science for IoT, Indian Institute of Information Technology- Allahabad.

Workshops Attended/Participated

- 2024 International Workshop on Reliability Theory and Survival Analysis, Department of Statistics, BHU, Varanasi, India during 21-23 December 2024.
- 2021 Workshop on Data Analysis Using SPSS, Department of Statistics, Manipur University, Canchipur, India during 18-20 October 2021.
- 2019 Workshop on Data Analytics, Indian Statistical Institute, Kolkata.
- 2018 National Workshop on Statistical Modeling and Optimization Using R Software, Institute of Infrastructure Technology research and Management, Ahmedabad.
- 2017 International Workshop Cum Seminar on Data Analytics Using R, Dr. Shakuntala Misra National Rehabilitation University, Lucknow.
- 2017 National Workshop on Mathematical Modelling and Computational Techniques using Mathematica, Zakir Husain Delhi College, Delhi.
- 2016 Workshop on Statistical Techniques Using Software (STUS-2016), DIT University, Dehradun.
- 2014 National Workshop on SPSS & R Software, M. D. University, Rohtak.

Seminars and Conferences

- 2025 Presented a paper entitled "Generalized Inverse Xgamma Distribution: Properties, Estimation and Its Applications to Survival Data" in a National Seminar on Recent Advances in Statistics: Theory and Applications, organized by the Visva-Bharati University Santiniketan, West Bengal, India, from March 17-18, 2025.
- 2025 Presented a paper entitled "Classical estimation of process capability index C_{py} for finite mixture distributions" in a Second National Conference on Time Series, Analytics and Recent Advances in Statistical Modelling (NCTAS - 2025), organized by the Department of Statistics, Central University of Rajasthan, India, from Feb 10-11, 2025.
- 2025 Presented a paper entitled "Parametric confidence intervals of generalized process capability index for Xgamma and Akash distributions" in a International Conference on Applied Probability, Statistics, and Stochastic Processes, organized by the Department of Mathematics, NIT Calicut, India, from Jan 30- Feb 01, 2025.

- 2024 Presented a paper entitled "Time truncated attribute mean control chart for finite mixture distributions" in a Eleventh International Triennial Calcutta Symposium on Probability and Statistics, 2024, organized jointly by the Department of Statistics, University of Calcutta and Calcutta Statistical Association, from 27-30 December, 2024.
- 2022 Presented a paper entitled "Parametric confidence intervals of generalized process capability index for finite mixture distributions" in a UGC Sponsored two days National Conference (Hybrid Mode) on Advanced Statistics & Applied Science (ASAS-2022), Ramanujan College, New Delhi, from 30-31 March 2022.
- 2022 Presented a paper entitled "Point and interval estimation of a generalized process capability index through classical and Bayesian estimation methods" in a International Conference (VIRTUAL MODE) on Statistics and Data Science: Theory and Practice for Progress and Prosperity (ICSDDS-2021) in Conjunction with 41th annual convention of Indian Society for Probability and Statistics (ISPS), from 27-29 January 2022.
- 2021 Presented a paper entitled "Estimation and confidence intervals of generalized process capability index for finite mixture distributions" in a 4th International Conference on Frontiers in Industrial and Applied Mathematics (FIAM- 2021) in SLIET Longowal Punjab, India, from 21-22 December 2021.
- 2021 Presented a paper entitled "Estimation and confidence intervals of generalized process capability index C_{py} : A comparative study" in a three days International Conference of the International Academy of Physical Sciences (CONIAPS XXVII) on Mathematical Modelling in Biological Sciences (M2BS 2021) in Department of Mathematics, NIT Silchar, Assam-788010, India, from 26-28 October 2021.
- 2021 Presented a paper entitled "Classical and the Bayesian estimation of process capability index C_{py} : A comparative study" in a two days International Conference (Virtual Mode) on Recent Advances in Statistics (ICRAS-2021) Sadguru Gadage Maharaj College, Karad, Maharashtra, India, from 11-12 October 2021.
- 2021 Presented a paper entitled "Parametric inference of generalized process capability index GPCI C_{pyk} for the power Lindley distribution" in a International Conference (VIRTUAL MODE) on Emerging Trends in Statistics and Data Science in Conjunction with 40th annual convention of Indian Society for Probability and Statistics (ISPS), from 7-10 September 2021.
- 2019 Presented a paper entitled "Comparison between two generalized process capability indices for Burr XII distribution using bootstrap confidence intervals" in a UGC Sponsored two days National Conference on Emerging trends in statistics and data sciences (ETSDDS-2019), Ramanujan College, New Delhi.
- 2018 Presented a paper entitled "Asymptotic and Bootstrap Confidence Interval of C_{py} for Exponential Distribution" in the 1st National Conference on Statistics for Humanities and Social Sciences: Recent Trends & Advancements at Rajasthan Statistical Association & Department of Lifelong learning, University of Rajasthan, Jaipur.

- 2017 Presented a paper entitled “Inference on Generalized Process Capability Index Cpy for Lindley Process Distribution” in the National Conference on Advanced Development in Theoretical and Applied Statistics, Banaras Hindu University, Varanasi.
- 2016 Presented a paper entitled “Forecasting of Pulses Production in India: Application of UCM Model using SAS” in a UGC Sponsored National Conference on Recent Statistical Computing Techniques and their application (RSCTA-2016), Ramanujan College, New Delhi.
- 2013 Attended National Seminar on Environment and Sustainable Development in India: Issues & Challenges, CCS University Meerut.

Other Academic Activities

- Course on Compute Concept Certificate from NIELIT.
- RS-CIT certificate from Vardhman Mahaveer Open University, Kota
- Diploma in Computer Applications, Business Accounting and Multimedia D.T.P from NIELIT.

Computer skills

Statistical Software	SAS, and Mathematica
Languages	R and Python
Office Tools	MS-Office
Other Software	\LaTeX

Languages

Hindi	Mothertongue
English	Intermediate

Declaration

I hereby declare that above furnished information is correct and true to the best of my knowledge and belief.

Date: --/ --/ -- --
Place:

(Dr. SUMIT KUMAR)