

Soudeep Deb

CURRENT POSITION	Assistant Professor Decision Sciences Area Indian Institute of Management Bangalore, India.	Webpage: soudeepd.github.io Phone: +91 80-26993387 E-mail: soudeep@iimb.ac.in
CITIZENSHIP	India	
RESEARCH INTERESTS	Time series, Spatial statistics, Spatio-temporal modeling, Environmental data analysis, Clustering and classification, Sports analytics, Application of time series and spatial statistics in finance and other disciplines.	
EXPERIENCE	Indian Institute of Management Bangalore , KA, India. <ul style="list-style-type: none">Assistant Professor, Decision Sciences Area. NBC Universal Media, LLC. , New York, NY, USA. <ul style="list-style-type: none">Senior Lead Data Scientist, Decision Sciences Division.	Mar 2020 - Present Sep 2018 - Feb 2020
EDUCATION	University of Chicago , Chicago, IL, USA. Ph.D., Statistics <ul style="list-style-type: none">Thesis: Irregular spaced random field, Spatio-temporal data and Clustering of time seriesAdvisor: Dr. Wei Biao WuOther committee members: Dr. Ruey S. Tsay and Dr. Michael L. Stein Indian Statistical Institute , Kolkata, WB, India. Master of Statistics (M. Stat.) <ul style="list-style-type: none">First Division with DistinctionSpecialization: Mathematical Statistics and ProbabilityDissertation: Association analysis for identifying rare genetic variantsAdvisor: Dr. Saurabh Ghosh Bachelor of Statistics (B. Stat.) <ul style="list-style-type: none">First Division with Distinction	Aug 2018 May 2013 May 2011
TEACHING & ADVISING	PhD thesis advisor: <ul style="list-style-type: none">Anchal Soni, Indian Institute of Management Bangalore. Thesis: Methods of analyzing structural breaks in multivariate time series: Applications to financial data.Siddharth Rawat, Indian Institute of Management Bangalore. Thesis: Spatio-temporal models in epidemiology and climate change.Kapil Gupta, Indian Institute of Management Bangalore.(Co-advised) Archi Roy, Indian Institute of Science Education & Research Pune. PhD committee member: <ul style="list-style-type: none">Sajad S Santhosh, Indian Institute of Management Bangalore. Course instructor , at Indian Institute of Management, Bangalore: <ul style="list-style-type: none">Sports Analytics (PGP/MBA)Multivariate Statistics (FPM/PhD)Decision Sciences I (PGP/MBA)Statistical Inference (FPM/PhD) Course instructor , at University of Chicago: <ul style="list-style-type: none">Introductory Statistics, Chicago Academic Achievement Program (UG)Statistical Models and Methods I (UG)	Feb 2023 May 2023 (Expected) 2025 (Expected) 2025 (Expected) 2024 Fall, 2023 Spring, 2021 - 2023 Fall, 2020 - 2023 Winter, 2020 Summers of 2015, 2017 Winter 2015

RESEARCH
GRANTS

Research Seed Grant from IIM Bangalore, India:

- Project: New techniques to analyze categorical and discrete time series data
- Amount: INR 300,000 for two years (August 2021 to December 2023)

Young Faculty Research Grant from IIM Bangalore, India:

- Amount: INR 900,000 for three years (March 2020 to February 2023)

PUBLICATIONS

1. Mareeswaran, M., Sen, S., **Deb, S.** (2023). New methods of structural break detection and an ensemble approach to analyze exchange rate volatility of Indian rupee during COVID-19. Accepted in the Journal of the Royal Statistical Society Series A.
2. **Deb, S.**, Karmakar, S. (2023) A novel spatio-temporal clustering algorithm with applications on COVID-19 data from the United States. Accepted in Computational Statistics & Data Analysis.
3. Roy, A., **Deb, S.**, Chakarwari, D. (2023) Impact of COVID-19 on public social life and mental health: A statistical study of Google Trends data from the USA. Accepted in Journal of Applied Statistics.
4. **Deb, S.** (2023). Analyzing airlines stock price volatility during COVID-19 pandemic through internet search data. International Journal of Finance & Economics, 28(2), 1497-1513.
5. **Deb, S.**, Deb, S. (2022). An ensemble method for early prediction of dengue outbreak. Journal of the Royal Statistical Society Series A, 185(1), 84-101.
6. **Deb, S.** (2022). A goal based index to analyze the competitive balance of a football league. Journal of Quantitative Analysis in Sports, 18(3), 171-186.
7. **Deb, S.**, Majumdar, M. (2022). A quadratic trend-based time series method to analyze the early incidence pattern of COVID-19. Accepted in Biostatistics & Epidemiology.
8. Rawat, S., **Deb, S.** (2021). A spatio-temporal statistical model to analyze COVID-19 spread in the USA. Accepted in the Journal of Applied Statistics.
9. Nahata, S., **Deb, S.** (2021) A Machine Learning Approach to Analyze the Effect of Situational and Player-Dependent Features on Converting Freekicks in Soccer. In Conference Proceedings 2021 Asia-Singapore Conference on Sport Science (p. 19).
10. **Deb, S.**, Tsay, R. S. (2019). Spatio-temporal Models with Space-time Interaction and Their Applications to Air Pollution Data. Statistica Sinica, 29, 1181-1207.
11. **Deb, S.**, Dey, D. (2019). Spatial Modeling of Shot Conversion in Soccer to Single out Goalscoring Ability. Journal of Sports Analytics, 5(4), 281-297.
12. **Deb, S.** (2019). VAR Model Based Clustering Method for Multivariate Time Series Data. Journal of Mathematical Sciences, 237(6), 754-765.
13. Prickett, K.C., Guiterrez, C., **Deb, S.** (2019). Family Firearm Ownership and Firearm-related Mortality among Young Children: 1976-2016. Pediatrics, 143(2), e20181171.
14. Chazin, H., **Deb, S.**, Falk, J., Srinivasan, A. (2019). New Statistical Approaches to Intra-individual Isotopic Analysis and Modelling of Birth Seasonality in Studies of Herd Animals. Archaeometry, 61(2), 478-493.
15. **Deb, S.**, Pourahmadi, M., Wu, W. B. (2017). An Asymptotic Theory for Spectral Analysis of Random Fields. Electronic Journal of Statistics, Vol. 11, No. 2, p. 4297-4322.
16. Zechner, C., **Deb, S.**, Koepl, H. (2013). Marginal Dynamics of Stochastic Biochemical Networks in Random Environments. In Control Conference (ECC), 2013 European, p. 4269-4274, IEEE.
17. Ghosh, S., **Deb, S.** (2013). A Clustering Approach for Mapping Rare Variants Based in Mutual Association. Human Heredity, Vol. 76, No. 2, pp. 98-98.

ARTICLES
UNDER
REVISION

1. Divekar, C., **Deb, S.**, Roy, R. (2023+) Real-time forecasting within soccer matches through a Bayesian lens. Under revision. Pre-print: <https://arxiv.org/abs/2303.12401>.
2. **Deb, S.**, Jana, K. (2022+). Nonparametric quantile regression for time series with replications and its application to climate data. Under revision. Pre-print: <https://arxiv.org/abs/2107.02091>.
3. Roy, A., Soni, A., **Deb, S.** (2022+) A wavelet-based methodology to compare the impact of pandemic versus Russia-Ukraine conflict on crude oil sector and its interconnectedness with other energy and non-energy markets. Under 2nd revision.
4. Chattopadhyay, A., **Deb, S.** (2022+) A spatio-temporal model for binary data and its application in analyzing the levels of COVID-19 spread. Under revision.
5. Bag, S., Gupta, K., **Deb, S.** (2022+). A review and recommendations on variable selection methods in regression models for binary data. Under revision. Pre-print: <https://arxiv.org/abs/2201.06063>.

PROFESSIONAL **Reviewer** for the following journals:
SERVICES

- Biometrics
- Electronic Journal of Statistics
- IIMB Management Review
- Journal of Advances in Management Research
- Journal of Behavioral and Experimental Finance
- Journal of Multivariate Analysis
- Journal of Sports Analytics
- Journal of the Royal Statistical Society: Series A and Series C
- Sankhya A and Sankhya B
- Scientific Reports

HONORS

At University of Chicago:

- International House Ralph W. Nicholas Fellowship Award 2017-18
- Graduate Council Travel Fund Award 2017
- Senior Consultant, Department of Statistics 2016-17
- Runner-up for Department of Statistics Consulting Award 2016
- Nominated for Best Teaching Assistant in Physical Sciences Division Winter 2014

Earlier awards:

- Kishore Vaigyanik Protsahan Yojana scholarship, Indian Institute of Science 2007 to 2013
- Selected for International Mathematical Olympiad Training Camp, India 2007 & 2008

SKILLS

Technical strength:

- Proficient: R, MATLAB, L^AT_EX, Microsoft Office
- Working knowledge: Python, SQL, C.

Languages:

- Fluent in reading, writing, speaking: English, Bengali, Hindi.
- Basic reading and speaking: Portuguese.