Siddharth Rawat

Curriculum Vitae

+919717115855
siddharth.rawat19@iimb.ac.in
rawatsid.github.io
rawat.siddharth24@gmail.com

Education

Jul '19-Current **Ph.D. in Decision Sciences**, Indian Institute of Management, Bangalore, India, (3.35/4 CGPA).
Expected Graduation by March 2023

Jul '10-May '14 **Bachelor of Technology**, Indian Institute of Technology(IIT-BHU), Varanasi, India, (7.31/10 CGPA).

- First Division

Experience

Jul '16-May '19 **Oracle India Pvt Ltd**, Hyderabad, India.

- IT Consultant - Part of Subscription Plan Management Team. This is the team that stores the information about all the clients who have subscribed to Oracle products which helps Oracle realize their revenue.

Jul '14-Jul '16 **Virtusa Consulting Services Pvt. Ltd.**, Hyderabad, India.

- Software Engineer - Worked on PEGA, a business process management software, providing consulting services to American Express (AMEX) and Standard and Poor's (S&P).

Research Interests

- **Bayesian Statistics**
- **Spatio-temporal modeling**
- **Applied Statistics**
- **Sports Analytics**

Publications

- **Rawat, S.**, Deb, S. (2021). A spatio-temporal statistical model to analyze COVID-19 spread in the USA. Journal of Applied Statistics, 1-20. https://doi.org/10.1080/02664763.2021.1970122
- **Rawat, S.**, Deb, S. (2022). Impact of rising temperature on rainfall: A spatio-temporal study from Bangladesh. Under review in Annals of Applied Statistics.

Work in Progress

- **Rawat, S.**, Deb, S., Berrett, C. (2022+), A Bayesian approach to identify changepoints in spatio-temporal ordered categorical data: An application to COVID-19 data. Manuscript under preparation.
- **Rawat, S.**, Shah, A., Deb, S. (2022+). Urban green spaces and their spatial impact on local temperature profiles. Manuscript under preparation.

Conferences

- **Computational and Methodological Statistics Conference 2022, King's College, London, UK.**

  Title: A Bayesian approach to identify changepoints in spatio-temporal ordered categorical data: An application to COVID-19 data.
- **Royal Statistical Society International conference 2022, Aberdeen, UK, September 2022.**

  Title: A Bayesian approach to identify changepoints in spatio-temporal ordered categorical data: An application to COVID-19 data.
- **Royal Statistical Society International conference 2021, Manchester, UK, September 2021.**

  Title: A spatio-temporal statistical model to analyze COVID-19 spread in the USA.

Research Experiences

Jun '22-Curr **Independent Research**.

- Spatial modeling for basketball data from the National Basketball Association (NBA) applied using Bayesian methodology. Data is there for different shot types for a player and the aim is to find spatial patterns across different types of shots.

May '22-Curr **Research Collaboration**, with Prof. Soudeep Deb and Prof. Arpit Shah.

- Spatio-temporal analysis of effect of urban green spaces on temperature. In this work, we intend to extend the work of Prof. Arpit Shah who analyzed the cooling effect of urban green spaces (UGS) in Bengaluru, India. We aim to analyze the effect of urban green spaces on temperature and how it changes across locations and time. In the model, we plan to use a space-time interaction with spatio-temporally dependent processes to quantify the region-specific effect of UGS. The model consists of monthly indicators with space-time interaction trend patterns. It incorporates indicator variables to understand the impact of changes in urban green spaces to artificial urban structures. It also helps understand whether the change has a lagged effect also if there is a time trend in the effect of change in the urban green space.

Oct '21-Curr **Research Collaboration**, with Prof. Soudeep Deb and Prof. Candace Berrett.

- Identify changepoints in spatio-temporal ordered categorical data: An application to COVID-19 data. In this work, we develop a novel changepoints detecting methodology for ordered categorical spatio-temporal data. he model leverages an additive mean structure with separable gaussian space-time processes. Our proposed technique is defined in such a way that it can detect a shift in the mean structure as well as in the covariance structures in both the spatial and temporal associations. We implement the model through a Bayesian framework, which gives a computational edge over a classical method. For application, we use county-wise COVID-19 data from New York by categorizing the daily cases according to CDC guidelines.

Jul '20-Sep '20 **Research Assistant**, Indian Institute of Management Bangalore, under supervision of Prof. Soudeep Deb.

- A spatio-temporal model to analyze global warming data. We use a space-time process with additive mean structure with random nose. We analyze the data for the last 15 years global average temperature data and computations are done by Bayesian framework for computational advantages.

Sep '19-Jan '20 **Research Assistant**, Indian Institute of Management Bangalore, under supervision of Prof. Dinesh Kumar.

- Web-scraping data for Cricket players to analyze the points scored by the players in the Dream 11 contest which is a fantasy sports league. We analyzed patterns about points scored by players and if there was a difference between a consistent player and inconsistent player from the distribution of their scoring.

Teaching

- Indian Institute of Management Bangalore Summer 2022 - Essentials of Mathematics Preparatory (Post Graduate Programme in Business Analytics).

Honors & Awards

- 0.1 percentile certificate for nationwide computer science in 12th CBSE Boards.
- 0.1 percentile certificate for nationwide Hindi in 10th CBSE Boards.

External Courses

- Machine Learning on Coursera by Stanford University. `https://coursera.org/share/3411a2cadf427f13aa6ba76a559506a0`

Technical Strengths

- **Proficient**
  R, Java, SQL, LaTeX
- **Working Knowledge**
  C++, C, Python

Languages

- **English, Hindi:**
  Fluent in reading, writing, speaking.

Interests

Sports: Basketball, Football. Reading