Siddharth Rawat

Curriculum Vitae

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Education

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

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

- Software Engineer

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`

Working Papers

- **Rawat, S.**, Deb, S. (2022+), Impact of rising temperature on rainfall: A spatio-temporal study from Bangladesh. Manuscript in Preparation.
- **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.

Conferences

- **Rawat, S.**, Deb, S. (2021). A spatio-temporal statistical model to analyze COVID-19 spread in the USA. Accepted to the Royal Statistical Society International conference 2021 held in Manchester, UK from 6th to 9th september 2021.
- **Rawat, S.**, Deb, S., Berrette, C. (2022+), A Bayesian approach to identify changepoints in spatio-temporal ordered categorical data: An application to COVID-19 data. Accepted to the Royal Statistical Society International conference 2022 to be held in Aberdeen, UK from 12th to 15th September 2022.

Research Experiences

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.**

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.

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