

SHOUNAK CHATTOPADHYAY

Email: shounak.chattopadhyay@gmail.com

Website: <https://shounakch.github.io/>

GitHub: <https://github.com/shounakch>

EXPERIENCE

Postdoctoral Scholar

Sep 2023 – present

Department of Biostatistics, University of California – Los Angeles

Advisor: Dr. Marc A. Suchard

Research Intern

June 2022 – Aug 2022

Memorial Sloan Kettering Cancer Center

EDUCATION

Doctor of Philosophy, Statistical Science

2018 – 2023

Duke University

Dissertation Title: Incorporating Scalability and Structural Constraints in Bayesian Modeling.

Advisor: Dr. David B. Dunson

Master of Statistics (M.Stat)

2016 – 2018

Indian Statistical Institute, Kolkata

Dissertation Title: On the Time Series Modeling of Directional Data.

Advisor: Dr. Atanu Biswas

Bachelor of Statistics (B.Stat, with Honors)

2013 – 2016

Indian Statistical Institute, Kolkata

PUBLICATIONS AND PREPRINTS

Statistical Methodology and Application:

1. **Chattopadhyay, S.**, Engel, S. M., and Dunson, D. (2024). Inferring synergistic and antagonistic interactions in mixtures of exposures. *Annals of Applied Statistics* (in print).
2. **Chattopadhyay, S.**, Zhang, A. R., and Dunson, D. B. (2024). Blessing of dimension in Bayesian inference on covariance matrices. *Under revision at the Journal of the Royal Statistical Society, Series B*; *arXiv:2404.03805*.
3. **Chattopadhyay, S.**, Chakraborty, A., and Dunson, D. B. (2023). Nearest neighbor Dirichlet mixtures. *Journal of Machine Learning Research*.

Interdisciplinary Collaborations:

1. Khera, R., Aminorroaya, A., Dhingra, L.S., Thangaraj, P.M., [...], **Chattopadhyay, S.**, [...], and Suchard, M. A. (2024). Comparative effectiveness of second-line antihyperglycemic agents for cardiovascular outcomes: a multinational, federated analysis of LEGEND-T2DM. *Journal of the American College of Cardiology*.
2. Maitre, L., Guimbaud, J. B., Warembourg, C., [...], and **Exposome Data Challenge Participant Consortium**. (2022). State-of-the-art methods for exposure-health studies: results from the exposome data challenge event. *Environment International*.

AWARDS AND HONORS

BNP13 Travel Award.	October 2022
ISBA Poster Award for ‘Synergistic Interaction Modeling’.	June 2022
ISBA Travel Award.	June 2022
Winner of Capital One Data Challenge. Indian Statistical Institute, Kolkata.	2016, 2017
Book grants for outstanding academic performance. Indian Statistical Institute, Kolkata.	2016 – 2018
INSPIRE Scholarship from the Department of Science and Technology, India.	2013 – 2018

TEACHING EXPERIENCE

STA 610 (Multilevel and Hierarchical Models) Teaching Assistant, Duke University	Fall 2022
STA 325L (Data Mining and Machine Learning) Teaching Assistant, Duke University	Fall 2021
STA 532 (Theory of Statistical Inference) Teaching Assistant, Duke University	Spring 2021
STA 111 (Probability and Statistical Inference) Teaching Assistant, Duke University	Spring 2020

TALKS AND PRESENTATIONS

Invited Talk at CFE-CMStatistics 2024 (scheduled). Title: Hamiltonian Monte Carlo for Bayesian nonparametric clustering via soft multinomial approximations.	December 2024
Presented at OHDSI Community Call. Title: Real-world performance of the concurrent comparator.	October 2024
Presented at OHDSI Methods Workgroup. Title: Bayesian model averaging for evidence synthesis.	February 2024
Contributed Talk at ENAR 2023. Title: Bayesian modeling of synergistic and antagonistic interactions in assessing health effects of mixtures of exposures.	March 2023
Contributed Poster at BNP13. Title: Nearest neighbor Dirichlet mixtures.	October 2022
Contributed Poster at ICML 2022. Title: Drug combination modeling with hierarchically weighted mixture models.	July 2022
Contributed Poster at ISBA 2022. Title: Synergistic interaction modeling.	June 2022
Contributed Poster at ISBA 2021 (virtual). Title: Synergistic interaction detection.	June 2021
Contributed Poster at JSM 2020 (virtual). Title: Nearest neighbor Dirichlet process.	August 2020
PCM Gold Medal Presentation at Indian Statistical Institute, Kolkata. Title: Scalable Bayesian methods.	July 2018

TECHNICAL SKILLS

Proficiency: R (Rcpp, RCppEigen, RcppArmadillo), Python, C++, LaTeX, and Microsoft Office.

Experience: Julia, SQL, and Matlab.

Author of the following R packages:

1. NNDM: Implements *Nearest Neighbor Dirichlet Mixtures*.
Website: <https://github.com/shounakch/NN-DM>.
2. SAID: Implements *Synergistic Antagonistic Interaction Detection*.
Website: <https://github.com/shounakch/SAID>.
3. FABLE: Implements *Factor Analysis with BLEssing of dimensionality*.
Website: <https://github.com/shounakch/FABLE>.