Shariq Mohammed

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ACADEMIC APPOINTMENTS

Assistant Professor *August 2021+*
Department of Biostatistics
Boston University (BU), Boston, MA

Rafik B. Hariri Junior Faculty Fellow *August 2022 - July 2025*
Rafik B. Hariri Institute for Computing and Computational Science & Engineering
Boston University, Boston, MA

EDUCATION & TRAINING

University of Michigan (U-M), Ann Arbor, MI

Precision Health Scholar *2019 - 2021*

Postdoctoral Research Fellow *2018 - 2021*
Mentors: *Veerabhadran Baladandayuthapani* & *Arvind Rao*

University of Connecticut (UConn), Storrs, CT

Ph.D. in Statistics *August 2018*
Dissertation: Bayesian variable selection with applications to neuroimaging data
Advisors: *Dipak K. Dey* & *Yuping Zhang*

M.S. in Statistics *September 2017*

Chennai Mathematical Institute (CMI), Chennai, India

M.Sc. Applications of Mathematics *May 2014*

Indian Statistical Institute (ISI), Bangalore, India

B.Math.(Hons.) *June 2012*

RESEARCH INTERESTS

Methodology:
Bayesian modeling, geometric/functional data analysis, spatial statistics, and variable selection

Applications:
Dementia and Alzheimer's disease, digital data, neuropsychology, spatial omics/biology, biomedical imaging analysis, geospatial public health

RESEARCH POSITIONS

Research Assistant, *The Travelers Companies*, Hartford, Connecticut *2016 - 2018*

Graduate/Research Assistant, *UConn* *2016 - 2017*

Summer Student Worker, *Pfizer Inc.*, Boston, Massachusetts *Summer 2016*

Research Intern, *Tata Consultancy Services Innovation Labs*, Hyderabad, India *Summer 2013*

RESEARCH FUNDING

NIH / Extramural

1R01HG014487-01 PI: Ruben Dries *2025 - 2029*
Role: Co-Investigator / BU Site PI
Scalable software engineering and methods for large-scale subcellular spatial omics
Total award: $3,371,645
Co-I Mohammed share: $523,243
**Scored 1^{st} percentile on initial submission*

1R03AG098551-01 PI: Shariq Mohammed *2026 - 2027*
Role: Principal Investigator
Network biomarkers for early detection of cognitive impairment using digital clock drawings
Total award: $323,825
**Scored 2^{nd} percentile on initial submission*

5R01GM127430-08 PI: William E. Johnson *2023 - 2027*
Role: Co-Investigator
Removing batch effects in high-throughput biomedical studies
Total award: $1,650,000

1R21NS135268-01 PI: Jose R. Romero *2023 - 2026*
Role: Co-Investigator
Longitudinal Risk Factor Changes and Early Recognition of Cerebral Small Vessel Disease
Total award: $453,750

BU–Sharecare Contract PI: Kimberly A. Dukes *2021 - 2025*
Role: Co-Investigator
Goals: *Document, track, and map the overall well-being of individuals, and to link social determinants of health with individual ratings of health to determine the drivers of health*

Institutional & Seed Funding

Population Health Data Science Seed Award PI: Charlene J. Ong *2025 - 2026*
Role: Co-Investigator
Predictive Utility of Pupillometry in Life-threatening Mass Effect: Management and Outcome Evaluation
Total award: $5,000

Population Health Data Science Seed Award PI: Shariq Mohammed *2024 - 2025*
Role: Principal Investigator
Novel methods to detect spatially varying genes in spatial transcriptomics datasets
Total award: $5,000

FHS-Brain Aging Program Pilot Award PI: Shariq Mohammed *2022 - 2023*
Role: Principal Investigator
Developing novel digital neuropsychological test-based markers to quantify heterogeneity in participants' performance
Total award: $25,000

BU SPH Early Career Catalyst Award PI: Shariq Mohammed *2022 - 2023*
Role: Principal Investigator
Statistical modeling for topographic analysis of spatially resolved transcriptomics data
Total award: $19,782

U–M Precision Health Scholars Award PI: Shariq Mohammed *2019 - 2021*
Role: Principal Investigator
Integrative decision models combining radiological-imaging and genotypic data in gliomas
Total award: $80,000

AWARDS

- *Rafik B. Hariri Junior Faculty Fellow*, Rafik B. Hariri Institute for Computing and Computational Science & Engineering, BU *August 2022 - July 2025*
- *Precision Health Scholars Award*, U-M *2019 - 2021*
- *Doctoral Dissertation Fellowship*, Graduate School, UConn *Spring 2018*
- *Doctoral Student Travel Award*, Graduate School, UConn *2017*
- *Multiple conference travel grants*, Department of Statistics, UConn *2017*
- *Pre-doctoral Dissertation Fellowship*, Department of Statistics, UConn *Summer 2016*
- *Matthew M. Goldstein Graduate Fellowship*, Department of Statistics, UConn *Summer 2015*
- *CMI Medal of Excellence* recognizing outstanding performance in National Graduate Program in Applications of Mathematics, CMI *2014*
- *Post-graduate Fellowship*, CMI *2012 - 2014*
- *INSPIRE Scholarship for Higher Education*, Ministry of Science & Technology, Government of India *2009 - 2014*
- *Undergraduate Fellowship*, ISI *2009 - 2012*

PUBLICATIONS

† equal contribution; * co-corresponding; trainee author

J28. Shapiro, A.N., **Mohammed, S.**, Horsburgh, C.R., Jenkins, H.E., and White, L.F. (2026): Adapting back-calculation methods to estimate the incidence of tuberculosis. *Epidemiology*, 37(2), 220–227. 10.1097/EDE.0000000000001936

J27. Dukes, K., Ni, P., Alperen, J., Cesare, N., LaValley, M., Tripp, T., Lane, K., **Mohammed, S.**, Patil, P., Emig, D., Winter, M., Davis, B., Wang, B., Jain, A., Acker, M., and Rickles, M. (2025). A national growth mixture modeling analysis of county-level COVID-19 incidence rate trajectories and health inequities during three successive pandemic waves in 2020. *Scientific Reports*, 15(1), p.41272. 10.1038/s41598-025-25074-5

J26. Song, J.J., Stafford, R.A., Pohlmann, J.E., Kim, I.S.Y., Cheekati, M., Dennison, S., Brush, B., Chatzidakis, S., Huang, Q., Smirnakis, S.M., Gilmore, E.J., **Mohammed, S.**, Abdalkader, M., Benjamin, E.J., Dupuis, J., Greer. D.M. and Ong, C.J. (2025). Later midline shift is associated with better post-hospitalization discharge status after large middle cerebral artery stroke. *Scientific Reports*, 15(1), p.11738. 10.1038/s41598-025-95954-3

J25. Veerapaneni, D., Sakthiyendran, N.A., Du, Y., Mallinger, L.A., Reinert, A., Kim, S.Y., Nguyen, C., Daneshmand, A., Abdalkader, M., **Mohammed, S.** and Dupuis, J., Sheth, K., Gilmore, E.J., Greer, D. and Ong, C.J. (2025). Early Pupil Abnormality Frequency Predicts Poor Outcomes and Enhances International Mission for Prognosis and Analysis of Clinical Trials in Traumatic Brain Injury (IMPACT) Model Prognostication in Traumatic Brain Injury. *Critical Care Explorations*, 7(5), p.e1257. 10.1097/CCE.0000000000001257

J24. Du, Y., Pohlmann, J., Chatzidakis, S., Brush, B., Mallinger, L., Stafford, R., Cervantes-Arslanian, A., Benjamin, E., Gilmore, E., Dupuis, J., Greer, D., Smirnakis, S., **Mohammed, S.**, and Ong, C. (2025): Quantitative Pupillometry predicts neurologic deterioration in patients with large middle cerebral artery stroke. *Annals of Neurology*, 97(5), pp.930–941. 10.1002/ana.27178

J23. Gibbs, B., Sniderman, J., **Mohammed, S.**, Kain, M., Freccero, D. and Abdeen, A., on behalf of The PEPPER Investigators. (2025): Association Between Tourniquet Use and Patient-Reported Outcomes Following Total Knee Arthroplasty: A Multicenter Comparison. *The Journal of Bone and Joint Surgery*, 107(9):p 976-984. 10.2106/JBJS.24.00266

J22. Jain, A., LaValley, M., Dukes, K., Lane, K., Winter, M., Spangler, K.R., Cesare, N., Wang, B., Rickles, M., and **Mohammed, S.*** (2024): Modeling health and well-being measures using ZIP Code spatial neighborhood patterns. *Scientific Reports*, 14(1), p.9180. 10.1038/s41598-024-58157-w

J21. **Mohammed, S.**, Masotti, M., Osher, N., Acharyya, S., and Baladandayuthapani, V. (2024): Statistical Analysis of Quantitative Cancer Imaging Data. *Statistics and Data Science in Imaging*, 1(1), 2405348. 10.1080/29979676.2024.2405348

J20. **Mohammed, S.**, Kurtek, S., Bharath, K., Rao, A. and Baladandayuthapani, V. (2023): Tumor radiogenomics with Bayesian layered variable selection. *Medical Image Analysis*, 102964. 10.1016/j.media.2023.102964

J19. Romano, M.F., Zhou, X., Balachandra, A.R., Jadick, M.F., Qiu, S., Nijhawan, D.A., Joshi, P.S., **Mohammad, S.**, et al. (2023): Deep learning for risk-based stratification of cognitively impaired individuals. *iScience*, 26(9). 10.1016/j.isci.2023.107522

J18. Halder, A.†, **Mohammed, S.**†, Dey, D.K. (2023): Bayesian variable selection in double generalized linear Tweedie spatial process models, *New England Journal of Statistics and Data Science*, 1(2), pp. 187-199, 10.51387/23-NEJSDS37

J17. Chekouo, T., Stingo, F.C., **Mohammed, S**, Rao, A., Baladandayuthapani, V. (2023): A

Bayesian group selection with compositional responses for analysis of radiologic tumor proportions and their genomic determinants. *Annals of Applied Statistics*, 17(4), pp.3013-3034. 10.1214/23-AOAS1749

J16. Panigrahi, S., **Mohammed, S.**, Rao, A. and Baladandayuthapani, V. (2023): Integrative Bayesian models using post-selective inference: A case study in radiogenomics. *Biometrics*, 79(3), pp.1801-1813. 10.1111/biom.13740

J15. Turk, S., Wang, N.C., Kitis, O., **Mohammed, S.** et al. (2022). Comparative study of radiologists vs machine learning in differentiating biopsy-proven pseudoprogression and true progression in diffuse gliomas. *Neuroscience Informatics*, 2(3), p.100088. 10.1016/j.neuri.2022.100088

J14. Qin, A., Lima, F., Bell, S., ..., **Mohammed, S.** et al. (2022). Cellular engagement and interaction in the tumor microenvironment predict non-response to PD-1/PD-L1 inhibitors in metastatic non-small cell lung cancer. *Scientific Reports*, 12(1), p.9054. 10.1038/s41598-022-13236-8

J13. Bhattachayya, R., Banerjee, S., **Mohammed, S.** and Baladandayuthapani, V. (2022): Spatial network-based modeling of COVID-19 dynamics: Early pandemic spread in India. To appear in *Journal of the Indian Statistical Association*. medRxiv

J12. Krishnan, S.N.†, **Mohammed, S.**†, Frankel, T.L. and Rao, A. (2022): GaWRDenMap: A quantitative framework to study the local variation in cell-cell interactions in pancreatic disease subtypes. *Scientific Reports*, 12(1), p.3708.

J11. **Mohammed, S.**, Ravikumar, V., Warner, E., Patel, S.H. et al. (2021): Quantifying T2-FLAIR mismatch using geographically weighted regression and predicting molecular status in lower-grade gliomas. *American Journal of Neuroradiology*, 43(1), pp.33–39. 10.3174/ajnr.A7341 (Nominated for 2021 Lucien Levy Best Research Article; AJNR blog announcement.)

J10. Halder, A., **Mohammed, S.**, Chen, K. and Dey D.K. (2021): Spatial Tweedie exponential dispersion models: An application to insurance rate-making. *Scandinavian Actuarial Journal*, 10, pp.1017–1036. 10.1080/03461238.2021.1921017

J9. **Mohammed, S.**, Bharath, K., Kurtek, S., Rao, A. and Baladandayuthapani, V. (2021): RADIOHEAD: Radiogenomic analysis incorporating tumor heterogeneity in imaging through densities. *Annals of Applied Statistics*, 15(4), pp.1808–1830. 10.1214/21-AOAS1458

J8. **Mohammed, S.** and Dey D.K. (2021): Scalable spatio-temporal Bayesian analysis of high-dimensional electroencephalography data. *Canadian Journal of Statistics*, 49, pp.107–128. 10.1002/cjs.11592

J7. Lee, J., Wang, N., Turk, S., **Mohammed, S.** et al., (2020): Discriminating pseudoprogression and true progression in diffuse infiltrating glioma using multi-parametric MRI data through deep learning. *Scientific Reports*, 10, 2033. 10.1038/s41598-020-77389-0

J6. **Mohammed, S.**, Li, T., Chen, X.D., Warner, E. et al., (2020). Density-based classification in diabetic retinopathy through thickness of retinal layers from optical coherence tomography. *Scientific Reports*, 10(1), pp.1–13. 10.1038/s41598-020-72813-x

J5. Chekouo, T.*, **Mohammed, S*** and Rao, A*. (2020): A Bayesian 2D functional linear model for gray-level co-occurrence matrices in texture analysis of lower grade gliomas. *NeuroImage: Clinical*, 28, p.102437. 10.1016/j.nicl.2020.102437

J4. **Mohammed, S.**, Dey D.K. and Zhang, Y. (2020): Classification of high-dimensional elec-

troencephalography data with location selection using structured spike-and-slab prior. *Statistical Analysis and Data Mining: The ASA Data Science Journal*, 13(5), pp.465–481. 10.1002/sam.11477 (Invited for SADM Best Paper Session at JSM 2022; JSM 2022 Program.)

J3. Ray, D., Salvatore, M., Bhattacharyya, R., Wang, L., Du, J., **Mohammed, S.** et al., (2020). Predictions, role of interventions and effects of a historic national lockdown in India's response to the COVID-19 pandemic: Data science call to arms. *Harvard Data Science Review*(Suppl 1). 10.1162/99608f92.60e08ed5

J2. **Mohammed, S.**, Dey D.K. and Zhang, Y. (2019): Bayesian variable selection using spike-and-slab priors with application to high dimensional electroencephalography data by local modelling. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 68(5), pp.1305–1326. 10.1111/rssc.12369

J1. **Mohammed, S.** and Dey D.K. (2019): Assessing malaria using neutral-zone classifiers with mixture discriminant analysis on 2D images of red blood cells. *Journal of Biostatistics and Epidemiology*, 5(1), pp.1–11. 10.18502/jbe.v5i1.1901

Book Chapter:

B1. Matuk, J., **Mohammed, S.**, Kurtek, S. and Bharath, K. (2020): Biomedical applications of geometric functional data analysis. In *Handbook of Variational Methods for Nonlinear Geometric Data*, pp.675–701. Springer, Cham. 10.1007/978-3-030-31351-7_24

Conference Proceedings:

C3. Warner, E., Lee, J., Krishnan, S., Wang, N., **Mohammad, S.**, et al. (2023): Low-parameter supervised learning models can discriminate pseudoprogression and true progression in non-perfusion-based MRI. In *45th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'23)*, Download

C2. Halder, A., **Mohammed, S.**, Chen, K. and Dey D.K. (2022): Spatial risk estimation in Tweedie double generalized linear models. In *2022 Proceedings of International E-Conference on Mathematical and Statistical Sciences: A Selçuk Meeting*, pp.62–91. Online version

C1. Bhat, S.P., Murali, U.K. and **Mohammed, S.** (2016): A dynamical systems approach to systemic risk in a financial network. In *2016 Indian Control Conference (ICC)*, pp.377–384. IEEE. 10.1109/INDIANCC.2016.7441162

Conference Presentation/Poster Abstracts:

CA6. Manchanda, R., Shi, X., Pinheiro, A., Demissie, S., Aparicio, H., Lioutas, V., Ekenze, O., Beiser, A., DeCarli, C., Seshadri, S., Yang, Q., **Mohammed, S.** and Romero, J.R., (2026): Association Between Lifetime Lipid Trajectories and Stroke Prevalence in the Framingham Heart Study. In *American Heart Association's International Stroke Conference 2026*. *Stroke*, 57 (Suppl_1). 10.1161/str.57.suppl_1.DP06

CA5. Pinheiro, A., Demissie, S., Aparicio, H., Lioutas, V., Charidimou, A., Ekenze, O., Himali, J., Beiser, A., DeCarli, C., Seshadri, S., Himali, J., **Mohammed, S.** and Romero, J.R. (2026): Life Stage-Specific Associations Between Vascular Risk Factor Trajectories and Cerebral Small Vessel Disease. In *American Heart Association's International Stroke Conference 2026*. *Stroke*, 57 (Suppl_1). 10.1161/str.57.suppl_1.DP003

CA4. Shi, X., Manchanda, R., Pinheiro, A., Demissie, S., Aparicio, H., Lioutas, V., Ekenze, O.,

Beiser, A., DeCarli, C., Seshadri, S., Yang, Q., **Mohammed, S.** and Romero, J.R. (2026): Lifetime Lipid Trajectories in Relation to Post-Stroke Dementia Prevalence in the Framingham Heart Study. In *American Heart Association's International Stroke Conference 2026*. *Stroke*, 57 (Suppl_1). 10.1161/str.57.suppl_1.TP102

CA3. Pinheiro, A., Karjadi, C., Tripodis, Y., Kolachalama, V.B., Lunetta, K.L., Demissie, S., Liu, C., Au, R., **Mohammed, S.** (2025). Predicting cognitive impairment using novel functional features of spatial proximity and circularity in the digital clock drawing test. *Alzheimer's & Dementia*, 21, e098476. 10.1002/alz70860_098476

CA2. Pinheiro, A., **Mohammed, S.**, Ekenze, O., Aparicio, H., Charidimou, A., Lioutas, V., Beiser, A., DeCarli, C., Seshadri, S., Demissie, S., and Romero, J.R. (2025): Lifelong trends in vascular risk factors and cerebral small vessel disease. In *American Heart Association's Annual International Stroke Conference 2025*. 10.1161/str.56.suppl_1.WP285

CA1. Mallinger, L.A., Behm, C.F., Du, Y., Pohlmann, J.E., Gilmore, E.J., Greer, D.M., **Mohammed, S.**, and Ong, C.J. (2024): Quantitative Pupillometry Post-Surgical Decompression Predicts Severe Neurologic Disability in Patients with Acute Brain Injury. In *22nd annual Neurocritical Care Society Meeting 2024*, San Diego, California.

Preprints (Submitted):

1. Bayesian feature extraction using Gaussian and diffused-gamma priors for high dimensional spatio-temporal data.
2. A spatial capture-recapture approach for estimating opioid use disorder prevalence in small areas using administrative data.
3. Euclidean distance, service-area networks, and population estimates: a case study of exposure measurement for grocery store access in US metropolitan areas.
4. Predicting cognitive impairment using novel functional features of spatial proximity and circularity in the digital clock drawing test. (ENAR Regional Advisory Board (RAB) Poster Award to Adlin Pinheiro; ENAR Award Winners List.)
5. Modeling bounded well-being indices using Bayesian double generalized beta regression with spatial and temporal borrowing. (ENAR Distinguished Student Paper Award to Abhi Jain; ENAR Award Winners List.)
6. Lifelong trajectories of modifiable vascular risk factors and relation to cerebral small vessel disease in the Framingham Heart Study. Preprint
7. Impact of shared decision-making tools in patients' native languages on postoperative outcomes in total hip and knee arthroplasty at a safety-net hospital.

Preprints (In Progress):

1. Structured Gaussian and diffused-gamma feature extraction for electroencephalography data.
2. GASP: Gradient-Aware Analysis of Spatial Patterns in Gene Expression.
3. ClockTraceR: A comprehensive framework and software for feature extraction and prediction using data from digital clock drawing test.
4. Cognitive impairment detection using network representations of digital clock drawings.
5. Heterogeneous causal effects with continuous treatments under the presence of interference.

6. Spatial patterns of well-being in six U.S. States: A ZIP Code-level study using driving-time neighborhoods.

SOFTWARE

Open-Source R Packages (hosted on GitHub)

- *marbles* – https://github.com/shariq-mohammed/marbles
- *RADIOHEAD* – github.com/shariq-mohammed/RADIOHEAD
- *ScalableBayesEEG* – github.com/shariq-mohammed/ScalableBayesEEG
- *stSpikeSlabEEG* – github.com/shariq-mohammed/stSpikeSlabEEG
- *SpikeSlabEEG* – github.com/shariq-mohammed/SpikeSlabEEG

TEACHING

Instructor

- *SPH BS 755* — Theory of Linear Models in Biostatistics *Fall 2025*
- *SPH BS 704* — Introduction to Biostatistics *Fall 2025*
- *SPH BS 901* — Directed Studies in Biostatistics *Fall 2025*
- *CAS MA 575 / SPH BS 755* — Linear Models *Fall 2023, Fall 2024*
- *SPH BS 800* — Accelerated Statistical Training *Summer 2024*
- *SPH BS 730* — Introduction to R: Software for Statistical Computing *Spring 2022*
- *Computational Biostatistics and Survival Analysis* — Workshop at *Tata Memorial Center*, Navi Mumbai, India (joint with Bhramar Mukherjee; Course Materials) *December 2019*
- *Statistical Methods (Calculus I level)* — UConn *Summer & Fall 2017*

Teaching Assistant

- *Introduction to Statistics I & II*; *Introduction to Mathematical Statistics I & II* — Department of Statistics, UConn *Fall 2014 – Spring 2016*
- *Numerical Linear Algebra* and *Probability Theory* — CMI *Spring & Fall 2013*

TALKS

Invited

IP43. ASA Biopharmaceutical Section Regulatory–Industry Statistics Workshop, Rockville, Maryland. *Digital neuropsychology, complex data, and the future of clinical trials* *September 2025*

IP42. BU Biostatistics Student Association Seminar, BU. *GitHub for R projects* *April 2025*

IP41. International Indian Statistical Association Annual Conference, Kochi, India. *Modeling well-being indices using ZIP code spatial neighborhoods under a Bayesian beta regression framework* *December 2024*

IP40. International Joint Conference on Computational and Financial Econometrics and Computational and Methodological Statistics (CFE–CMStatistics), London, United Kingdom. *Quantifying imaging heterogeneity via density functions with applications in brain and pancreatic cancer imaging* *December 2024*

IP39. Joint Statistical Meetings, Portland, Oregon (Topic-contributed). *GaWRDenMap: analyzing cell–cell interactions using spatial analysis and density functions to predict pancreatic disease subtypes* *August 2024*

IP38. Virginia Commonwealth University Biostatistics Seminar, Richmond, Virginia. *Quantifying imaging heterogeneity via density functions with applications in brain and pancreatic cancer imaging* *April 2024*

IP37. Connecticut College Research Seminar, New London, Connecticut (Virtual). *Quantifying imaging heterogeneity via density functions with applications in brain and pancreatic cancer imaging* *April 2024*

IP36. McGill University Biostatistics Seminar, Montreal, Canada (Virtual). *Quantifying imaging heterogeneity using density functions with applications in brain and pancreatic cancer imaging* *March 2024*

IP35. BU Biostatistics Student Association Seminar, BU. *GitHub for R projects* *February 2024*

IP34. Research on Tap on Health Data Science, Office of Research, BU. *Statistical methods for complex health data* *November 2023*

IP33. American Public Health Association Annual Meeting & Expo, Atlanta, Georgia (Roundtable session). *Modeling health and well-being measures by incorporating ZIP code spatial neighborhood patterns* *November 2023*

IP32. Federal University of Minas Gerais Mathematics and Statistics Seminar, Belo Horizonte, Brazil. *GaWRDenMap: analyzing cell–cell interactions using spatial analysis and density functions to predict pancreatic disease subtypes* *August 2023*

IP31. A New Era of Statistical Science: A Special Conference in Honor of Prof. Dipak Dey's 70th Anniversary, Belo Horizonte, Brazil. *Layered variable selection for multivariate Bayesian regression with density function–based features: a case study in imaging genomics* *Aug 2023*

IP30. Pushing the Boundary of Data Science through Statistical Modeling and Inference, Blacksburg, Virginia. *Layered variable selection for multivariate Bayesian regression with density function–based features: a case study in imaging genomics* *July 2023*

IP29. BU URBAN Research Methods Seminar, BU. *Modeling health and well-being measures by incorporating ZIP code spatial neighborhood patterns* *April 2023*

IP28. Framingham Heart Study–Brain Aging Program Seminar, BU. *Constructing novel features from digital trail making and clock drawing tests for cognitive assessment* *April 2023*

IP27. BU Probability and Statistics Seminar, BU. *Layered variable selection for multivariate Bayesian regression using density functions: a case study in imaging genomics* *Feb 2023*

IP26. International Indian Statistical Association Annual Conference, Bengaluru, India (Virtual). *Quantifying T2–FLAIR mismatch in gliomas using geographically weighted regression and density functions* *December 2022*

IP25. BU SPH Think. Teach. Do. Spotlight Talk, BU. *Statistical methods for complex health data* *November 2022*

IP24. International Conference on Statistical Distributions and Applications, Huntington, West Virginia (Virtual). *Layered variable selection for multivariate Bayesian regression with density function–based features: a case study in imaging genomics* *October 2022*

IP23. BU Bioinformatics Seminar, BU. *Layered variable selection for multivariate Bayesian regression with density function–based features: a case study in imaging genomics* *Oct 2022*

IP22. Royal Statistical Society International Conference 2022, Aberdeen, Scotland (Virtual). *Layered variable selection for multivariate Bayesian regression with density function–based features: a case study in imaging genomics* *September 2022*

IP21. Joint Statistical Meetings, Washington, DC. *Density-based classification in diabetic retinopathy through thickness of retinal layers from optical coherence tomography* *August 2022*

IP20. Joint Statistical Meetings, Washington, DC (Poster). *Classification of high-dimensional EEG data with location selection using a structured spike–and–slab prior* *August 2022*

IP19. 22nd Meeting of New Researchers in Statistics and Probability, George Mason University, Fairfax, Virginia. *Quantifying T2–FLAIR mismatch in gliomas using geographically weighted regression and density functions* *August 2022*

IP18. 35th New England Statistics Symposium, UConn. *Quantifying T2–FLAIR mismatch in gliomas using geographically weighted regression and density functions* *May 2022*

IP17. BU Epidemiology Seminar, BU. *Layered variable selection for multivariate Bayesian regression: a case study in imaging genomics* *March 2022*

IP16. Tech Talks 1.0, Student's Association of Artificial Intelligence and Data Science, G H Raisoni College of Engineering and Management, Pune, India (Virtual). *Computational biostatistics and biomedical imaging data analysis* *February 2022*

IP15. The Fifth Eastern Asia Chapter—International Society for Bayesian Analysis Conference: Satellite Meeting of the 2020 ISBA World Meeting to Celebrate James O. Berger's 70th Birthday (Virtual). *RADIOHEAD: radiogenomic analysis incorporating tumor heterogeneity in imaging through densities* *November 2021*

IP14. BU Biostatistics Student Association Seminar, BU. *RADIOHEAD: radiogenomic analysis incorporating tumor heterogeneity in imaging through densities* *November 2021*

IP13. Department of Biostatistics, BU (Panel). *Biostatistics career development panel: "Academic career path"* *October 2021*

IP12. Joint Statistical Meetings 2021 (Virtual). *Layered variable selection for multivariate Bayesian regression: a case study in imaging genomics* *August 2021*

IP11. Center for Computational Mathematics Seminar, Flatiron Institute, Simons Foundation, New York (Virtual). *RADIOHEAD: radiogenomic analysis incorporating tumor heterogeneity in imaging through densities* *June 2021*

IP10. Statistical Methods in Imaging Conference (Virtual). *RADIOHEAD: radiogenomic analysis incorporating tumor heterogeneity in imaging through densities* *May 2021*

IP9. ENAR Spring Meeting (Virtual). *Layered variable selection for multivariate Bayesian regression: a case study in imaging genomics* *March 2021*

IP8. NMIMS Sunandan Divatia School of Science (Virtual). *StatChat 2020: panel discussions with undergraduate and master's students on career and academic perspectives in statistics and data science* *August and September 2020*

IP7. U-M Precision Health Symposium (Virtual) (Poster). *RADIOHEAD: radiogenomic analysis incorporating tumor heterogeneity in imaging through densities* *August 2020*

IP6. Joint Statistical Meetings 2020 (Virtual). *RADIOHEAD: radiogenomic analysis incorporating tumor heterogeneity in imaging through densities* *August 2020*

IP5. MIDAS COVID-19 Special Seminar Series, U-M (Group presentation). *Understanding COVID-19 dynamics via individual-level temporal and network modeling: lessons from India and China* *June 2020*

IP4. Precision Health Seminar (Pharmacy 217), U-M. *Integrative statistical modeling approaches for imaging genomics data* *March 2020*

IP3. Tools and Technology Seminar, U-M. *Integrative statistical modeling approaches for imaging genomics data* *March 2020*

IP2. ENAR Spring Meeting, Nashville, Tennessee (Virtual). *RADIOHEAD: radiogenomic analysis incorporating tumor heterogeneity in imaging through densities* *March 2020*

IP1. International Indian Statistical Association Annual Conference, Mumbai, India. *RADIOHEAD: radiogenomic analysis incorporating tumor heterogeneity in imaging through densities* *December 2019*

Contributed

CP11. 65th ISI World Statistics Congress, The Hague, Netherlands. *Bayesian Double Generalized Beta Regression for ZIP Code-Level Well-Being Assessment* *October 2025*

CP10. Symposium on Data Science and Statistics, Salt Lake City, Utah. *Modeling well-being using ZIP code spatial neighborhoods under a Bayesian beta regression framework Apr 2025*

CP9. BU Department of Biostatistics Research Blitz, BU. *Statistical and machine learning methods for complex data applications* *March 2023*

CP8. BU Department of Biostatistics Research Blitz, BU. *Statistical methods for biomedical imaging and digital data analysis* *March 2022*

CP7. ENAR Spring Meeting, Philadelphia, Pennsylvania. *Bayesian variable selection using spike-and-slab prior with application to high-dimensional EEG data* *March 2019*

CP6. Joint Statistical Meetings, Vancouver, Canada. *Bayesian variable selection using spike-and-slab prior with application to high-dimensional EEG data* *July 2018*

CP5. Symposium on Data Science and Statistics, Reston, Virginia. *Bayesian variable selection using spike-and-slab prior with application to high-dimensional EEG data* *May 2018*

CP4. Bayes Comp 2018, Barcelona, Spain. *Bayesian variable selection using spike-and-slab prior with application to high-dimensional EEG data* (Poster) *March 2018*

CP3. International Indian Statistical Association Annual Conference, Hyderabad, India. *Bayesian variable selection using spike-and-slab prior with application to EEG data* *December 2017*

CP2. 34th Quality and Productivity Research Conference, University of Connecticut, Storrs, Connecticut. *Bayesian variable selection using spike-and-slab prior with application to high-dimensional EEG data* *June 2017*

CP1. 31st New England Statistics Symposium, UConn. *Modeling of large insurance claims and occurrence data* (joint with Aritra Halder) *April 2017*

STUDENTS

Doctoral Advisees

- Jordan Ahn, PhD Biostatistics *2025+*
- Abhi Jain, PhD Biostatistics — Dissertation (co-advisor: Sara Lodi); Research Assistantship (joint with Kimberly Dukes) *2022+*
  - ⋆ *ENAR Distinguished Student Paper Award* *2026*
- Adlin Pinheiro, PhD Biostatistics *2022+*
  - ⋆ *BU SPH Pre-doctoral Research Ignition Award* *2022 - 2023*
  - ⋆ *ENAR Regional Advisory Board (RAB) Poster Award* *2025*
  - ⋆ *BU SPH Academic Travel Award* *2025*
  - ⋆ *Alzheimer's Association International Conference Fellowship* *2025*

Doctoral Dissertation Committees

- Nimish Adhikari, PhD Biostatistics *2024+*
- Genevieve Dupuis, PhD Biostatistics *2024+*
- Daniel Kojis, PhD Biostatistics *2024+*
- Evelyn Lauren, PhD Biostatistics *2023+*
- Anne Shapiro, PhD Biostatistics *2023+*
- Garrett Frady, PhD Statistics, UConn *Graduated 2024*
- Jianing Wang, PhD Biostatistics *Graduated 2023*

Master's Advisees

- Jude Sleiman, MPH *2024 - 2025*
- Xiaohang Zhang, MS Biostatistics *2024 - 2025*
- John Cannon, MS Biostatistics *2022 - 2025*
- Yinzhu Piao, MA Statistics *2022 - 2024*
- Aaron Morris, MS Applied Biostatistics *Spring 2023*
- Kim-Judy You, MS Applied Biostatistics *Spring 2022*
- Tianxiang Sheng, MS Applied Biostatistics *Spring 2022*

Research Assistants

- Daniel Cho *Fall 2025+*

MPH Integrated Learning Experience Advisees

- Claudia Cheng, Anna Flynn, Lea Hur, Peijie Qiu *Fall 2025*
- Rishi Chigurupati, Cameron Pettinato, Morgan Powell, Katharine Reisdorf *Fall 2024*
- Alyssa Santoso, Olivia Seestadt *Fall 2023*
- Xinyi Du, Ian Hussain, Ziran Li, Shannon Mahowald, Alyson Speshock *Fall 2022*

SERVICE & LEADERSHIP

Academic & Professional

- *Associate Editor*, *Sankhyā B: The Indian Journal of Statistics* (Official Journal of Indian Statistical Institute) *2023+*
- *Vice-President*, Conferences Committee, New England Statistics Society (NESS) *2024+*
- *Member*, Conference Advisory Committee, New England Statistics Symposium *2025*
- *Reviewer*, BU Biostatistics Student Paper Competition *2025+*
- *Reviewer*, American Public Health Association Annual Meeting *2024+*
- *Reviewer*, Student Paper Competition, American Statistical Association Section on Bayesian Statistical Science (SBSS) *2024+*
- *Member*, Scientific Organizing Committee, Red Rock Data Science Student Conference *2024*
- *Member*, Program Committee, New England Statistics Symposium *2024*
- *Reviewer*, Grant Review and Mock Study Section, Advanced Research Institute *2022, 2024*
- *Reviewer*, Framingham Heart Study Brain Aging Program Pilot Awards *2024*
- *Co-Chair, Organizing Committee*, New England Statistics Symposium (host: Boston University) *2022 - 2023*
- *Co-Vice President for Scientific Program*, New England Statistics Symposium *2022 - 2023*
- *Member, Organizing Committee*, *Pushing the Boundary of Data Science through Statistical Modeling and Inference* (Conference in honor of Dipak K. Dey) *2022 - 2023*
- *Member*, Graduate Student Fellow Awards Committee, Rafik B. Hariri Institute for Computing and Computational Science and Engineering *2023*
- *Founding Co-Organizer*, IISA Statistics and Data Science Innovations Webinar Series *2022*
- *Member*, Student Research Awards Committee, New England Statistics Symposium *2022*
- *Member*, Membership & Outreach Committee, IISA *2020 - 2022*
- *Organizer (Invited Sessions)*: JSM 2020; ENAR Spring Meeting 2021; JSM 2021; NESS 2022; JSM 2022; IISA Annual Conference 2022; JSM 2023; NESS 2024; IBC 2026
- *Ad-hoc Reviewer*: *Advances in Biomarker Sciences and Technology; Annals of Applied Statistics; Bayesian Analysis; Biometrics; Biostatistics; Clinical Cancer Informatics; Epidemiology; Harvard Data Science Review; Journal of the American Heart Association; Journal of the American Medical Informatics Association; Journal of Applied Statistics; The New England Journal of Statistics in Data Science; Sankhyā B; Scandinavian Actuarial Journal; Spatial Statistics; STAT; Statistics and Data Science in Imaging*

Department / School

- *Co-Organizer*, Biostatistics Department Seminar, BU *2021+*
- *Member*, Biostatistics Qualifying Exam Committee, BU *2024+*
- *Member*, Environmental Health Faculty Search Committee, BU *2022 - 2023*
- *Vice-President*, Statistics Graduate Student Committee, UConn *2016 - 2017*
- *Vice-Chair* of Student Committee, New England Statistics Symposium *2017*
- *Co-President*, Statistics Graduate Student Committee, UConn *2015 - 2016*
- *Senator*, UConn Graduate Student Senate *2015 - 2016*

External / Community

- *Advisor / President / Treasurer*, Tarang (South Asian cultural organisation), UConn *2015-18*
- *Student Representative*, Senate Faculty Standards Committee, UConn *2015 - 2016*

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