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International Institute of Information Technology Bangalore
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Education & Training

University of California, Davis   CA, USA   Computer Science   Ph.D., 2002-2007
Thesis: Computational and Interactive Visualization with a Focus on Topological Analysis, Dual Contouring, and Water-resource Data Representation (Advisor: Prof. Bernd Hamann) - https://hdl.handle.net/2027/uc1.x75980

Mississippi State University   MS, USA   Computational Engg.   M.S., 2000-2002
Thesis: Modular Processing of Two-dimensional Significance Maps for Efficient Feature Extraction (Advisor: Prof. David S. Thompson) - https://scholarsjunction.msstate.edu/td/3174/

Indian Institute of Technology Madras   TN, India   Aerospace Engg.   B.Tech., 1996-2000
Senior year project: Displacement-based Polygonal Finite Elements. (Advisor: Prof. G. Subramanian)

Professional Upskilling:
National Law School of India University   KA, India   Envrionmental Law   Postgraduate Diploma, 2022-2023

Research & Professional Experience

Sep 2017 – present	Associate Professor, International Institute of Information Technology Bangalore
Jun 2016	Visiting Scientist, Indian Statistical Institute, Bangalore
Jun 2010 – Aug 2017	Assistant Professor, International Institute of Information Technology Bangalore
Apr 2008 – Apr 2009	Research Associate, Texas Advanced Computing Center, University of Texas at Austin
Feb 2007 – Mar 2008	Scientific Programmer, Enthought Inc., Austin, Texas
Aug 2002 – Dec 2006	Graduate Student Researcher, Institute of Data Analysis and Visualization (IDAV), University of California, Davis
Aug 2000 – Jul 2002	Graduate Research Assistant, Engineering Research Center (ERC), Mississippi State University

Honors, Awards, and Recognition

- Best Paper Award Nomination, 14th International Conference on Knowledge Discovery and Information Retrieval (KDIR), INSTICC, 2022
- Membership Grade Elevation to ACM Senior Member, 2022
- Best Paper Award Nomination, 3rd International Conference on Deep Learning Theory and Applications (DeLTA), INSTICC, 2022
- Best Associate Editor, IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), IEEE, 2021
- Best Paper Award Nomination, 1st International Conference on Image Processing and Vision Engineering (IMPROVE), INSTICC, 2021
- Best Paper Award, 2020 IEEE India Geoscience and Remote Sensing Symposium (InGARSS), IEEE, 2020
- Intel India Research Fellowship (for MS student, with travel grant for faculty), Intel India, 2019-20
- Best Paper Award Nomination, 12th International Joint Conference on Computer Vision, Imaging, and Computer Graphics Theory and Applications (VISIGRAPP (3: IVAPP)), INSTICC, 2017
- Early Career Research Award, Science and Engineering Board, Govt. of India, 2017-20
- Membership Grade Elevation to IEEE Senior Member, 2016
- International Travel Grant for Young Scientists, Department of Science and Technology, Govt. of India, 2012
- CITRIS Fellowship, The Center for Information Technology Research in the Interest of Society, Univesity of California, 2006

Research Activities

My current research is in the interdisciplinary areas of computer science, computational engineering, geoscience, and population studies, with a focus on spatial big data analytics and ensemble methods. I solve data analytical problems using data transformations, visual analytics, and, to a lesser extent, high performance computing. My work pertains to

multi-variate, multi-attribute, and spatiotemporal datatypes, and complex networks. I develop data analytic workflows for applications in earth and planetary sciences, biomedical data, population studies, and human performance (e.g., meta-analysis of visualizations, traffic scenarios). The use of ensemble methods enables tackling uncertainty in data in real-world datasets.

My research pertains to problem statements in the following areas:

- Methods:
  - Visual analytics for spatial big data using scientific and information visualization
  - Deep, supervised, and unsupervised learning for segmentation, classification, clustering, text detection
  - Statistical methods, such as time-series regression models for forecasting, multivariate multiple linear regression model for dimensionality reduction, spatial autocorrelation for geographical data
  - Computer vision and image processing algorithms for semantic segmentation, and edge detection
  - Computational geometry for reconstruction of boundaries and surfaces
- Data formats:
  - Complex networks, including multi-layered ones, in varied applications [brain connectivity, multiomics, co-authorship, migration]
  - Matrix and tensor-based data transformed from raw data [point clouds, images, tabular data]
- Applications:
  - Earth and planetary sciences [airborne LiDAR point clouds, SAR images, multispectral images, and ocean volumetric datasets],
  - Healthcare [population surveys, patient records, COVID-19 case logs],
  - Human-computer interaction and human perception [visualization systems, chart image analysis, gaze tracking]
  - Urban traffic analysis [monocular images of traffic scenes, automotive LiDAR point clouds]

I am currently serving as an Associate Editor for IEEE Transactions on Circuits and Systems for Video Technology (TCSVT) [2021-24], an Academic Editor for PLOS Complex Systems (PCSY) [2023-], and an Associate Editor for IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS) [2024-]. I am serving as the IEEE GRSS Special Awards Committee Chair for 2024.

I am serving as an expert member in the committee for "airborne LiDAR" for BIS (Bureau of Indian Standards), Government of India [2021-24]. I served as the chair of the IEEE Geoscience and Remote Sensing Society (GRSS) Bangalore Section slate for 3 years during 2021-23. I was one of the general chairs for the regional IEEE GRSS conference in India, 2023 IEEE India Geoscience and Remote Sensing Symposium (InGARSS 2023), serving the IEEE Region R10 (Asia-Pacific region), held at IIIT Bangalore in December 2023.

(a) Publications

Profile pages: ORCiD; Google Scholar; DBLP; Semantic Scholar; ResearchGate; publons; Scopus

Peer-reviewed Journal Articles

[11]   S. Mathai, P. Krishnan, and J. Sreevalsan Nair, "Understanding Graphical Literacy Using School Students' Comprehension Strategies," *Contemporary Education Dialogue (accepted)*, March 2024.

[10]   L. S. Liang, J. Sreevalsan-Nair, and B. S. D. Sagar, "Multispectral Data Mining: A Focus on Remote Sensing Satellite Images," *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*, e1522, October 2023. DOI: 10.1002/widm.1522. eprint: https://wires.onlinelibrary.wiley.com/doi/pdf/10.1002/widm.1522. [Online]. Available: https://wires.onlinelibrary.wiley.com/doi/abs/10.1002/widm.1522.

[9]   J. Sreevalsan-Nair, A. Mubayi, J. Chhabra, R. R. Vangimalla, and P. R. Ghogale, "Evaluating Early Pandemic Response through Length-of-Stay Analysis of Case Logs and Epidemiological Modeling: A Case Study of Singapore in Early 2020," *Computational and Mathematical Biophysics*, vol. 11, no. 1, p. 20 230 104, October 2023. DOI: 10.1515/cmb-2023-0104. [Online]. Available: https://www.degruyter.com/document/doi/10.1515/cmb-2023-0104/html.

[8]   H. Ravindra and J. Sreevalsan-Nair, "A Methodology for Integrating Population Health Surveys Using Spatial Statistics and Visualizations for Cross-sectional Analysis," *SN Computer Science*, vol. 4, no. 224, pp. 1–19, 2023. DOI: 10.1007/s42979-022-01652-6. [Online]. Available: https://rdcu.be/c56W3.

[7] S. C. Daggubati, J. Sreevalsan-Nair, and K. Dadhich, "BarChartAnalyzer: Data Extraction and Summarization of Bar Charts from Images," *SN Computer Science*, vol. 3, no. 500, pp. 1–19, 2022. DOI: 10.1007/s42979-022-01380-x. [Online]. Available: https://rdcu.be/cWJWj.

[6] R. R. Vangimalla and J. Sreevalsan-Nair, "Communities and Cliques in Functional Brain Network Using Multiscale Consensus Approach," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 30, pp. 1951–1960, 2022. DOI: 10.1109/TNSRE.2022.3190390.

[5] S. Singh and J. Sreevalsan-Nair, "Adaptive Multiscale Feature Extraction in a Distributed System for Semantic Classification of Airborne LiDAR Point Clouds," *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1–5, Article Sequence Number: 6502305, 2022. DOI: 10.1109/LGRS.2021.3099935.

[4] U. M. Mehta, D. Shadakshari, P. Vani, S. S. Naik, V. K. Raj, R. R. Vangimalla, Y. J. Reddy, J. Sreevalsan-Nair, and R. D. Bharath, "Case Report: Obsessive compulsive disorder in posterior cerebellar infarction-illustrating clinical and functional connectivity modulation using MRI-informed transcranial magnetic stimulation," *Wellcome Open Research*, vol. 5:189, 2020. DOI: 10.12688/wellcomeopenres.16183.2.

[3] J. Sreevalsan-Nair, A. Jindal, and B. Kumari, "Contour Extraction in Buildings in Airborne LiDAR Point Clouds Using Multi-scale Local Geometric Descriptors and Visual Analytics," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 11(5), pp. 2320–2335, 2018. DOI: 10.1109/JSTARS.2018.2833801.

[2] J. Sreevalsan-Nair, L. Linsen, and B. Hamann, "Topologically accurate dual isosurfacing using ray intersection," *JVRB-Journal of Virtual Reality and Broadcasting*, vol. 4, no. 4, 2007. DOI: 10.20385/1860-2037/4.2007.4.

[1] D. S. Thompson, R. Machiraju, M. Jiang, J. S. Nair, G. Craclun, and S. S. D. Venkata, "Physics-based feature mining for large data exploration," *Computing in Science & Engineering*, vol. 4, no. 4, pp. 22–30, 2002. DOI: 10.1109/MCISE.2002.1014977.

Peer-reviewed Conference Papers

[32] A. Mundayatt and J. Sreevalsan-Nair, "Scaling up Study Area Size in Flood Susceptibility Mapping," in *Proceedings of 2024 IEEE International Geoscience and Remote Sensing Symposium (IGARSS) (accepted)*, IEEE, 2024.

[31] P. Rastogi, K. Singh, and J. Sreevalsan-Nair, "SunburstChartAnalyzer: Hierarchical Data Retrieval from Images of Sunburst Charts for Tree Visualization," in *Computer Graphics and Visual Computing (CGVC)*, P. Vangorp and D. Hunter, Eds., The Eurographics Association, 2023, pp. 97–101, ISBN: 978-3-03868-231-8. DOI: 10.2312/cgvc.20231200.

[30] D. Katkoria and J. Sreevalsan-Nair, "Evaluating and Improving RoSELS for Road Surface Extraction from 3D Automotive LiDAR Point Cloud Sequences," in *Deep Learning Theory and Applications: Revised Selected Papers from Third International Conference DeLTA 2022, Portugal, Chapter 6, CCIS volume 1858*, Springer Cham, 2023. DOI: 10.1007/978-3-031-37317-6_6. [Online]. Available: https://link.springer.com/book/9783031373183.

[29] B. Gnanaraj and J. Sreevalsan-Nair, "EyeExplore: An Interactive Visualization Tool for Eye-Tracking Data for Novel Stimulus-Based Analysis," in *Proceedings of the 2023 Symposium on Eye Tracking Research and Applications*, ser. ETRA '23, Tubingen, Germany: ACM, 2023. DOI: 10.1145/3588015.3590132.

[28] J. Sreevalsan-Nair, "On Metavisualization and Properties of Visualization," in *Proceedings of the 18th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications - Vol 3, IVAPP*, INSTICC, SciTePress, 2023, pp. 230–239, ISBN: 978-989-758-634-7. DOI: 10.5220/0011794300003417.

[27] J. Sreevalsan-Nair and A. Jakher, "CAP-DSDN: Node Co-association Prediction in Communities in Dynamic Sparse Directed Networks and a Case Study of Migration Flow," in *Proceedings of the 14th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management - Vol I: KDIR*, INSTICC, SciTePress, 2022, 63–74 ***Best Paper Award Nomination***, ISBN: 978-989-758-614-9. DOI: 10.5220/0011537600003335.

[26] H. Ravindra and J. Sreevalsan-Nair, "Composition of Geospatial Visualizations for Scale-aware Views of Multiple Outcome Variables in Population Surveys," in *Proceedings of the 26th International Conference on Information Visualization IV2022*, IEEE, 2022, pp. 432–441. DOI: 10.1109/IV56949.2022.00077.

[25] D. Katkoria and J. Sreevalsan-Nair, "RoSELS: Road Surface Extraction for 3D Automotive LiDAR Point Cloud Sequence," in *Proceedings of the 3rd International Conference on Deep Learning Theory and Applications (DeLTA)*, INSTICC, SciTePress, 2022, 55–67. **Best Paper Award Nomination**, ISBN: 978-989-758-584-5. DOI: 10.5220/0011301700003277.

[24] S. C. Daggubati and J. Sreevalsan-Nair, "ACCirO: A System for Analyzing and Digitizing Images of Charts with Circular Objects," in *Computational Science – ICCS 2022, Proceedings of the 22nd International Conference, Part III, chapter 50*, Cham: Springer International Publishing, 2022, pp. 605–612. DOI: 10.1007/978-3-031-08757-8_50.

[23] J. Sreevalsan-Nair, P. Mohapatra, and S. Singh, "IMGD: Image-based Multiscale Global Descriptors of Airborne LIDAR Point Clouds Used for Comparative Analysis," in *Proceedings of the Smart Tools and Apps for Graphics (STAG 2021) - Eurographics Italian Chapter Conference*, P. Frosini, D. Giorgi, S. Melzi, and E. Rodolá, Eds., The Eurographics Association, 2021, pp. 61–72, ISBN: 978-3-03868-165-6. DOI: 10.2312/stag.20211475.

[22] R. Thangavel and J. Sreevalsan-Nair, "CV4FEE: Flood Extent Estimation Using Consensus Voting in Ensemble of Methods for Change Detection in Sentinel-1 GRD SAR Images," in *Proceedings of the 7th Asia-Pacific Conference on Synthetic Aperture Radar (APSAR 2021)*, IEEE, 2021, pp. 1–6. DOI: 10.1109/APSAR52370.2021.9688390.

[21] A. C. Victor and J. Sreevalsan-Nair, "Building 3D Virtual Worlds from Monocular Images of Urban Road Traffic Scenes," in *International Symposium on Visual Computing (ISVC 2021), Part II, Lecture Notes in Computer Science LNCS 13018*, Bebis, George et al., Ed., Springer Nature Switzerland AG, 2021, pp. 1–14. DOI: 10.1007/978-3-030-90436-4_37.

[20] R. R. Vangimalla and J. Sreevalsan-Nair, "HCNM: Heterogenous Correlation Network Model for Multi-level Integrative Study of Multi-omics Data for Cancer Subtype Prediction," in *Proceedings of the 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, IEEE, 2021, pp. 1880–1886. DOI: 10.1109/EMBC46164.2021.9630781.

[19] K. Dadhich, S. C. Daggubati, and J. Sreevalsan-Nair, "ScatterPlotAnalyzer: Digitizing Images of Charts Using Tensor-based Computational Model," in *International Conference on Computational Science, Computational Science – ICCS 2021, Part V, Lecture Notes in Computer Science, volume 12746*, M. Paszynski, D. Kranzlmüller, V. V. Krzhizhanovskaya, and P. M. Dongarra Jack J.and Sloot, Eds., Cham: Springer International Publishing, 2021, pp. 70–83, ISBN: 978-3-030-77977-1. DOI: 10.1007/978-3-030-77977-1_6.

[18] K. Dadhich, S. C. Daggubati, and J. Sreevalsan-Nair, "BarChartAnalyzer: Digitizing Images of Bar Charts," in *Proceedings of the 1st International Conference on Image Processing and Vision Engineering (IMPROVE)*, INSTICC, SciTePress, 2021, 17–28. **Best Paper Award Nomination**. DOI: 10.5220/0010408300170028.

[17] H. Ravindra and J. Sreevalsan-Nair, "Integrating Population Surveys Using Spatial Visual Analytics: A Case Study on Nutrition and Health Indicators of Children under Five in India," in *Proceedings of the 7th International Conference on Geographical Information Systems Theory, Applications and Management - Volume I (GISTAM)*, INSTICC, SciTePress, 2021, pp. 203–213, ISBN: 978-989-758-503-6. DOI: 10.5220/0010462102030213.

[16] S. Singh and J. Sreevalsan-Nair, "A Distributed System for Optimal Scale Feature Extraction and Semantic Classification of Large-Scale Airborne LiDAR Point Clouds," in *17th International Conference on Distributed Computing and Internet Technology (ICDCIT), Lecture Notes in Computer Science*, Springer International Publishing, 2021, pp. 280–288. DOI: 10.1007/978-3-030-65621-8_18.

[15] S. Singh and J. Sreevalsan-Nair, "A distributed system for multiscale feature extraction and semantic classification of large-scale LiDAR point clouds," in *Proceedings of the 2020 IEEE India Geoscience and Remote Sensing Symposium (InGARSS)*, IEEE, 2020, 74–77. **Best Paper Award**. DOI: 10.1109/InGARSS48198.2020.9358938.

[14] J. Sreevalsan-Nair and P. Mohapatra, "Influence of Aleatoric Uncertainty on Semantic Classification of Airborne LiDAR Point Clouds: A Case Study with Random Forest Classifier Using Multiscale Features," in *Proceedings of the 2020 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2020)*, IEEE, 2020, pp. 1066–1070. DOI: 10.1109/IGARSS39084.2020.9323409.

[13] R. R. Vangimalla and J. Sreevalsan-Nair, "A Multiscale Consensus Method Using Factor Analysis to Extract Modular Regions in the Functional Brain Network," in *Proceedings of the 2020 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, IEEE, 2020, pp. 2824–2828. DOI: 10.1109/EMBC44109.2020.9175622.

[12] K. Lukose, S. Agarwal, V. N. Rao, and J. Sreevalsan-Nair, "Design Study for Creating Pathfinder: A Visualization Tool for Generating Software Test Plans using Model based Testing," in *Proceedings of the 13th International Joint Conference on Computer Vision, Imaging, and Computer Graphics Theory and Applications (VISIGRAPP (3: IVAPP))*, INSTICC, 2018, pp. 289–300. DOI: 10.5220/0006622302890300.

[11] J. Sreevalsan-Nair and A. Jindal, "Using gradients and tensor voting in 3D local geometric descriptors for feature detection in airborne lidar point clouds in urban regions," in *Proceedings of the 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, IEEE, 2017, pp. 5881–5884. DOI: 10.1109/IGARSS.2017.8128347.

[10] J. Sreevalsan-Nair and S. Agarwal, "NodeTrix-CommunityHierarchy: Techniques for Finding Hierarchical Communities for Visual Analytics of Small-world Networks," in *Proceedings of the 12th International Joint Conference on Computer Vision, Imaging, and Computer Graphics Theory and Applications (VISIGRAPP (3: IVAPP))*, INSTICC, 2017, 140–151. ***Best Paper Award Nomination***. DOI: 10.5220/0006175701400151.

[9] S. Agarwal, A. Tomar, and J. Sreevalsan-Nair, "Nodetrix-multiplex: Visual analytics of multiplex small world networks," in *International Workshop on Complex Networks and their Applications, Studies in Computational Intelligence*, vol. 693, Springer International Publishing, 2016, pp. 579–591. DOI: 10.1007/978-3-319-50901-3_46.

[8] B. Kumari and J. Sreevalsan-Nair, "An interactive visual analytic tool for semantic classification of 3D urban LiDAR point cloud," in *Proceedings of the 23rd SIGSPATIAL International Conference on Advances in Geographic Information Systems*, ACM, 2015, pp. 1–4. DOI: 10.1145/2820783.2820863.

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[5] A. Narayan, J. Sreevalsan-Nair, K. Gaither, and B. Hamann, "Isosurface extraction from hybrid unstructured grids containing pentahedral elements," in *Proceedings of the International Conference on Information Visualization Theory and Applications (GRAPP/IVAPP)*, INSTICC, 2012, pp. 660–669. DOI: 10.5220/0003852506600669.

[4] W. Xu and J. Sreevalsan-Nair, "Visual Representation of Multiple Associations in Data using Constrained Graph Layout," in *Proceedings of the EG UK Theory and Practice of Computer Graphics (TPCG)*, Eurographics, 2009, pp. 65–68. DOI: 10.2312/LocalChapterEvents/TPCG/TPCG09/065-068.

[3] J. Sreevalsan-Nair, M. Verhoeven, D. L. Woodruff, I. Hotz, and B. Hamann, "Human-guided enhancement of a stochastic local search: Visualization and adjustment of 3D pheromone," in *International Workshop on Engineering Stochastic Local Search Algorithms (SLS), Lecture Notes in Computer Science Series*, Springer-Verlag, 2007, pp. 182–186. DOI: 10.1007/978-3-540-74446-7_14.

[2] J. Sreevalsan-Nair, E. Van Nieuwenhuyse, I. Hotz, L. Linsen, and B. Hamann, "An interactive visual exploration tool for Northern California's water-monitoring network," in *Proceedings of the Visualization and Data Analysis 2007*, International Society for Optics and Photonics, vol. 6495, 2007, 649506:1–649506:12. DOI: 10.1117/12.703695.

[1] J. Sreevalsan-Nair, B. Hamann, and L. Linsen, "Using ray intersection for dual isosurfacing.," in *Proceedings of the International Conference on Computer Graphics Theory and Applications (GRAPP)*, INSTICC, 2006, pp. 34–42. DOI: 10.20385/1860-2037/4.2007.4.

Peer-reviewed Chapters in Books and Monographs

[29] L.-T. Tay and J. Sreevalsan-Nair, "Disaster Susceptibility Analysis in Remote Sensing," in *Cognitive Sensing Technologies and Applications*, G. R. Sinha, B. Subudhi, C.-P. Fan, and H. Nisar, Eds., Stevenage, UK: Institute of Engineering and Technology (IET), 2023, ISBN: ISBN-13:978-1-83953-689-2. DOI: 10.1049/PBCE135E_ch16. [Online]. Available: https://digital-library.theiet.org/content/books/10.1049/pbce135e_ch16.

[28] S. Singh and J. Sreevalsan-Nair, "Visual Exploration of LiDAR Point Clouds," in *Advances in Scalable and Intelligent Geospatial Analytics: Challenges and Applications, Chapter 12*, K. Kurte, S. Durbha, J. Sanyal, L. Yang, S. Chaudhari, U. Bhangale, and U. Bharambe, Eds., Florida, USA: CRC Press, 2023, p. 19. DOI: 10.1201/9781003270928.

[27] J. Sreevalsan-Nair, "Interpolation," in *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series*, B. S. Daya Sagar, Q. Cheng, J. McKinley, and F. Agterberg, Eds., Cham: Springer International Publishing, 2022. DOI: 10.1007/978-3-030-26050-7_164-1.

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[22] J. Sreevalsan-Nair, "Simulated Annealing," in *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series*, B. S. Daya Sagar, Q. Cheng, J. McKinley, and F. Agterberg, Eds., Cham: Springer International Publishing, 2022. DOI: 10.1007/978-3-030-26050-7_291-1.

[21] J. Sreevalsan-Nair, "K-Medoids," in *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series*, B. S. Daya Sagar, Q. Cheng, J. McKinley, and F. Agterberg, Eds., Cham: Springer International Publishing, 2022. DOI: 10.1007/978-3-030-26050-7_172-1.

[20] J. Sreevalsan-Nair, "Fuzzy C-means Clustering," in *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series*, B. S. Daya Sagar, Q. Cheng, J. McKinley, and F. Agterberg, Eds., Cham: Springer International Publishing, 2022. DOI: 10.1007/978-3-030-26050-7_129-1.

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[12]   J. Sreevalsan-Nair, "Data Visualization," in *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series*, B. S. Daya Sagar, Q. Cheng, J. McKinley, and F. Agterberg, Eds., Cham: Springer International Publishing, 2022. DOI: `10.1007/978-3-030-26050-7_78-1`.

[11]   J. Sreevalsan-Nair, "Multiscaling," in *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series*, B. S. Daya Sagar, Q. Cheng, J. McKinley, and F. Agterberg, Eds., Cham: Springer International Publishing, 2022. DOI: `10.1007/978-3-030-26050-7_223-1`.

[10]   J. Sreevalsan-Nair, "LiDAR," in *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series*, B. S. Daya Sagar, Q. Cheng, J. McKinley, and F. Agterberg, Eds., Cham: Springer International Publishing, 2022. DOI: `10.1007/978-3-030-26050-7_180-1`.

[9]   V. Sridhar, J. Sreevalsan-Nair, P. R. Ghogale, and R. R. Vangimalla, "Sharing and Use of Non-Personal Health Information: Case of the COVID-19 Pandemic," in *Data Centric Living: Algorithms, Digitization and Regulation*, V. Sridhar, Ed., 1st ed., Routledge India, 2022, ch. 8, ISBN: 9780367536534. DOI: `10.4324/9781003093442`.

[8]   J. Sreevalsan-Nair, K. Dadhich, and S. C. Daggubati, "Tensor Fields for Data Extraction from Chart Images: Bar Charts and Scatter Plots," in *Topological Methods in Data Analysis and Visualization VI*, I. Hotz, T. Bin Masood, F. Sadlo, and J. Tierny, Eds., Springer, Cham, 2021, pp. 219–241. DOI: `10.1007/978-3-030-83500-2_12`. [Online]. Available: `https://arxiv.org/abs/2010.02319`.

[7]   R. R. Vangimalla and J. Sreevalsan-Nair, "Comparing community detection methods in brain functional connectivity networks," in *International Conference on Computational Intelligence, Cyber Security and Computational Models (ICC^3), Communications in Computer and Information Science*, vol. 1213, Springer, Singapore, 2019, pp. 3–17. DOI: `10.1007/978-981-15-9700-8_1`. [Online]. Available: `https://www.biorxiv.org/content/10.1101/2020.02.06.935783v1`.

[6]   J. Sreevalsan-Nair, "Visual Analytics of 3D Airborne LiDAR Point Clouds in Urban Regions," in *Sarda N., Acharya P., Sen S. (eds), Geospatial Infrastructure, Applications, and Technologies: India Case Studies*, Springer, Singapore, 2018, pp. 313–325. DOI: `10.1007/978-981-13-2330-0_23`.

[5]   J. Sreevalsan-Nair and B. Kumari, "Local geometric descriptors for multi-scale probabilistic point classification of airborne LiDAR point clouds," in *Modeling, Analysis, and Visualization of Anisotropy*, Springer, 2017, pp. 175–200. DOI: `10.1007/978-3-319-61358-1_8`.

[4]   J. Sreevalsan-Nair, C. Auer, B. Hamann, and I. Hotz, "Eigenvector-based interpolation and segmentation of 2D tensor fields," in *Topological Data Analysis and Visualization: Theory, Algorithms, and Applications, in Mathematics and Visualization Series*, Springer-Verlag, 2011, pp. 139–150. DOI: `10.1007/978-3-642-15014-2_12`.

[3]   C. Auer, J. Sreevalsan-Nair, V. Zobel, and I. Hotz, "2D Tensor Field Segmentation," in *Dagstuhl Conference 2009 on Scientific Visualization: Interactions, Features, Metaphors, in Dagstuhl Follow-Ups*, vol. 2, 2011, pp. 17–35. DOI: `10.4230/DFU.Vol2.SciViz.2011.17`.

[2]   I. Hotz, J. Sreevalsan-Nair, H. Hagen, and B. Hamann, "Tensor field reconstruction based on eigenvector and eigenvalue interpolation," in *Scientific Visualization: Advanced Concepts, in Dagstuhl Follow-Ups*, vol. 1, 2010, pp. 110–123. DOI: `10.4230/DFU.SciViz.2010.110`.

[1]   J. Sreevalsan-Nair, *Using Duality in Various Scientific Visualizations*, reprint of Ph.D. dissertation, by VDM Verlag Dr. Muller Aktiengesellschaft & Co. KG Publishers, May 2008.

Peer-reviewed Extended Abstracts and Posters

[11]   H. Ravindra and J. Sreevalsan-Nair, *Spatial and Visual Analytics for Grouped Analysis of Population Survey Data*, presented at the doctoral research workshop at the 26th International Conference on Information Visualization IV2022, July 2022.

[10]   S. Agarwal, F. Beck, U. Ghosh, and J. Sreevalsan-Nair, *CiteVis: Visual Analysis of Overlapping Citation Intents as Dynamic Sets*, accepted for poster presentation at the 15th IEEE Pacific Visualization Symposium (PacificVis) 2022, April 2022. [Online]. Available: https://s-agarwl.github.io/publication/Agarwal2022CiteVis.

[9]   A. Jakher and J. Sreevalsan-Nair, *Community Detection in Migration Flow Networks*, accepted for oral presentation, at the Urban Complex Sysems 2020, a satellite event at the annual Conference on Complex Systems 2020 (CCS 2020), December 2020.

[8]   J. Sreevalsan-Nair, R. R. Vangimalla, and P. R. Ghogale, *Influence of COVID-19 Transmission Stages and Demographics on Length of In-Hospital Stay in Singapore for the First 1000 Patients*, accepted for poster and oral presentations, at the COVID-19 track at the 28th Conference on Intelligent Systems for Molecular Biology (ISMB 2020), July 2020. DOI: 10.7490/f1000research.1118104.1.

[7]   R. R. Vangimalla and J. Sreevalsan-Nair, *Construction and Visualization of Diseasome of Lung Diseases Associated with COVID-19 from Co-association Networks of Multi-omics Data*, accepted for poster and oral presentations, at the NetBio COSI track at the 28 th Conference on Intelligent Systems for Molecular Biology (ISMB 2020), July 2020. DOI: 10.7490/f1000research.1118138.1.

[6]   R. R. Vangimalla and J. Sreevalsan-Nair, *Consensus Methods for Network Analysis of Biomedical Data: Case Studies on Brain Functional Connectivity Network and Gene-Gene Association Networks*, presented at the doctoral colloquium presentation, at the 4th International Conference on Computational Intelligence and Networks (CINE 2020), February 2020.

[5]   A. C. Victor and J. Sreevalsan-Nair, *Scene Editing Using Synthesis of Three-Dimensional Virtual Worlds From Monocular Images of Urban Road Traffic Scenes*, accepted for spotlight session oral and poster presentations, at the ACM SIGGRAPH European Conference on Visual Media Production (CVMP), December 2019. [Online]. Available: https://www.cvmp-conference.org/files/2019/short/48.pdf.

[4]   R. R. Vangimalla and J. Sreevalsan-Nair, *RadTrix: A Composite Hybrid Visualization for Unbalanced Bipartite Graphs in Biological Datasets*, accepted for poster and video presentations, at the 9th Eurographics Workshop on Visual Computing for Biology and Medicine (VCBM), September 2019. [Online]. Available: https://conferences.eg.org/vcbm2019/wp-content/uploads/sites/2/2019/09/05.pdf.

[3]   J. Sreevalsan-Nair, N. Murthy, S. Agarwal, R. R. Vangimalla, and S. Ramesh, *Collaborative Design of Visual Analytics Techniques for Survey Data for Community-based Research in Public Health*, as poster and lightning talk presentations, at the 8th Workshop on Visual Analytics in Healthcare, affiliated with IEEE VIS, October 2017.

[2]   K. P. B.V., N. Kumar, S. Agrawal, H. Gangakhedkar, and J. Sreevalsan-Nair, *Partial Implementation of Hybrid MD5-Blowfish Algorithm in Kernel Space on the GPU Using CUDA*, accepted for poster presentation, at the 19th Annual International Conference on High Performance Computing - Student Research Symposium (HiPC2012-SRS), December 2012.

[1]   K. Patel, J. Savalia, and J. Sreevalsan-Nair, *Parallelization of Complex Event Processing*, accepted for oral presentation, at the 18th Annual International Conference on High Performance Computing - Student Research Symposium (HiPC2011-SRS), December 2011.

Non-Peer-Reviewed Articles (Preprints and Invited Articles)

[8]   J. Sreevalsan-Nair, *Co-Association Matrices in Ensemble Clustering: Diverse Applications and Extensions*, Preprint available at SSRN: https://dx.doi.org/10.2139/ssrn.4448950, May 2023.

[7]   J. Sreevalsan-Nair and P. Mohapatra, *Augmented Semantic Signatures of Airborne LiDAR Point Clouds for Comparison*, arXiv, April 2020. [Online]. Available: https://arxiv.org/abs/2005.02152.

[6]   J. Sreevalsan-Nair, R. R. Vangimalla, and P. R. Ghogale, *Estimation of Length of In-Hospital Stay Using Demographic Data of the First 1000 COVID-19 Patients in Singapore*, medRxiv, April 2020. DOI: 10.1101/2020.04.17.20069724.

[5]   J. Sreevalsan Nair, *Paving the Way for Geovisual Analytics*, Advanced Computing & Communications, issue 3, ACCS, Decmeber 2017. [Online]. Available: https://journal.accsindia.org/paving-the-way-for-geovisual-analytics/.

[4] J. Sreevalsan-Nair, "A Survey of Requirements of Multivariate Data and its Visualizations for Analysis of Child Malnutrition in India," in *Data Science Communications, vol. 1*, S. Srinivasa, Ed., IIITB Press, October 2016, pp. 1–26. [Online]. Available: https://www.iiitb.ac.in/gvcl/pubs/2016_SreevalsanNair_preprint_nutrition-survey.pdf.

[3] B. Kumari and J. Sreevalsan-Nair, *Three-dimensional Visualization of LiDAR Point Cloud Using Structural Feature Extraction*, in Proceedings of NSDI (National Spatial Data Infrastructure) 2013, 2013.

[2] J. Sreevalsan-Nair, C. S. Co, E. van Nieuwennhuyse, L. Linsen, and B. Hamann, *Visualization of Water Resource Data*, in the Proceedings of UC Davis Student Workshop on Computing, University of California, Davis, 2003.

[1] J. Sreevalsan-Nair, L. Linsen, B. A. Ahlborn, M. S. Green, and B. Hamann, *Hierarchical Visualization of Large-scale Unstructured Hexahedral Volume Data*, in R. Bajcsy, M. Gross, B. Hamann, K. Joy, O. Staadt, editors, Proceedings of Lake Tahoe Workshop on Collaborative Virtual Reality and Visualization, 2003.

(b) Research Grants

As Principal Investigator

10. (07/2021 – 05/2022), *(Completed)*, "Vehicle LiDAR Point Cloud Processing and Analysis," Ignitarium Technology Solutions Pvt. Ltd., (INR 3,50,000).

9. (02/2020 – 02/2023), *(Completed)*, "Data Analysis of Split Questionnaire for Conducting Surveys for Population Studies Using Novel Statistical Measures and Visualizations," Mathematical Research Impact Centric Support (MATRICS) fixed grant scheme, Science and Engineering Research Board (SERB), Government of India, (INR 6,00,000).

8. (08/2019 – 07/2020), *(Completed)*, "Uncertainty Analysis of LiDAR Point Clouds in Autonomous Driving", Intel India Research Fellowship, Intel India, (INR 8,00,000).

7. (06/2018-06/2020, and 6-months extension), *(Completed)*, "Visual Analytics of Population Health Surveys," IBM Shared University Grant, (INR 19,55,000).

   • Visualization tool as deliverable: https://gvcl.shinyapps.io/NFHS4Vis/

6. (07/2017 – 06/2019), *(Completed)*, "Visual Analytics of Public Health Data," Foundations of Research in Health Systems (FRHS), India, (INR 10,00,000).

5. (05/2017 – 05/2020, and 4-months extension), *(Completed)*, "Tensor Modeling and Visualization of Three-dimensional Geospatial Datasets," Early Career Research Award (ECRA), Science and Engineering Research Board (SERB), Government of India, (INR 14,83,900).

4. (01/2016 – 06/2017), *(Completed)*, "Visual Analytics for Early Detection of Child Malnutrition," Foundations of Research in Health Systems (FRHS), India, (INR 10,00,000).

3. (08/2014 – 07/2017), *(Completed)*, "Interactive Three-dimensional Visualization of Large-scale ARGO Data," Indian National Center for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Government of India, (INR 40,30,000).

2. (01/2014 – 12/2014), *(Completed)*, "Visualization of Security Analytics," EMC^2-RSA Center of Excellence, (INR 10,00,000).

1. (08/2012-08/2014, and 6-months extension), *(Completed)*, "LAN-based Interactive Three-dimensional Visualization of LiDAR Point Cloud Data," Natural Resources Data Management System (NRDMS) programme (currently, National Geospatial Programme (NGP)), Department of Science and Technology (DST), Government of India, (INR 32,25,000).

As Co-Investigator

4. (09/2023 (for 3 years)), *Recommended in principle*, "Indian Standards for Mobile LiDAR Surveying and Mapping," DST - National Geospatial Programme under Geospatial Science Development (GSD), *PI: Dr. Manohar Yadav, MNNIT Allahabad*, (INR 75,67,659).

3. (05/2022-05/2025), "VR4CIMT - Virtual Reality-based Compassion and Integrity Training Platform for Doctor-Patient Communications," Technology Innovation Hub (iHub Drishti), IIT Jodhpur and Department of Science and Technology, Government of India *PI: Dr. T. K. Srikanth, IIIT Bangalore; participating institutions – IIIT Bangalore, NIMHANS, Hyperreality Technologies*, (INR 85,00,000).

2. (08/2017-07/2020, and 12-months extension), *(Completed)*, "High Resolution DNS of 3D-MHD Turbulence with Varying PrM & Spectral, Statistical and Topological Analysis of Magnetic Structures Formed with some Implications to Plasma Fusion Devices," Board of Research in Nuclear Studies (BRNS), Department of Atomic Energy, Government of India, *PI: Dr. Shiva Kumar Malapaka, IIIT Bangalore*, (INR 34,80,000).

1. (01/2018-12/2019), *(Completed)*, "Seed Grant for E-Health Research Center at IIIT Bangalore", Department of Health and Family Welfare, Government of Karnataka, *PI: Dr. T. K. Srikanth, IIIT Bangalore*, (INR 2,00,00,000, infrastructural grant).

(c)   Invited Talks[1]

50. Keynote Talk at the International Conference on Contemporary and Sustainable Infrastructure at SJBIT Bangalore, "Advances in Learning Models for Multi-Hazard Susceptibility Mapping," March 15, 2024.

49. Talk at Workshop on Digital Technologies in Psychiatry organized by NIMHANS, University of Newcastle and NEESAMA, on "The Role of AI in Personalized Mental Healthcare," March 08, 2024.

48. Lightning Talk at the Monthly Lightning Talk Series by the WiGIS Professional Development Committee, "Divide and Conquer for Geospatial Big Data Analytics," February 02, 2024.

47. Invited Plenary Talk at the National Conference on Applied Computational Intelligence 2023 (NACI-2023) in association with INSA, New Delhi and organized by JSS Academy of Technical Education, "Ensemble Methods for Point Cloud Analysis," December 22, 2023.

46. Keynote Talk at the 6th International Conference on Computational Intelligence, Cyber Security and Computational Models (ICC^3-2023), "Ensemble Methods in Spatial Applications," December 16, 2023.

45. Invited Talk at Mphasis, "AI systems for geometry extraction from automotive-environment-sensing," July 28, 2023.

44. Invited Talk at the 5-day Faculty Development Program (FDP) on Research Insights in Civil Engineering (RICE 2023), "Ensemble Methods in Geospatial Applications," July 25, 2023.

43. Invited Talk at the Workshop on Geo-Spatial Data Science, Dept. of Mathematics and Statistics, IIT Tirupathi, "Understanding Uncertainty in Learning Methods for Geospatial Data Analysis," December 14, 2022.

42. Talk at IIIT-B in the Samvaad Talk Series, "Extracting geometry to understand the data from automotive-environment-sensing," November 14, 2022.

41. Invited Talk at the 2022 International Workshop on Remote Sensing and Societal Applications, IEEE GRSS Kolkata Chapter, "Probabilistic Analysis Using Ensemble Methods in Geoscientific Applications," September 28, 2022.

40. Invited Talk in the CS Katha Bartha Series, School of Computer Science, NISER Bhubaneshwar, "Multiscale Computational Thinking in Science and Engineering," June 29, 2022.

39. Invited Talk at Student Paper Presentation Competition in IEEE GRSS Bangalore Section, "Academic Research: How to Train Your Dragon," June 04, 2022.

38. Talk at IIIT-B in the Samvaad Talk Series, "Multiscale Computational Thinking in Data Science," May 16, 2022.

37. Talk at IIIT-B during visit by Power Grid (PGCIL) Learners' Team, "Visualization and Analysis of LiDAR Point Clouds (for Remote Sensing and Autonomous Driving)," March 23, 2022.

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[1]excluding paper and poster presentations at conferences and workshops

36. Invited Speaker at ATAL Faculty Development Program (FDP) on *Foundations of Data Science and Machine Learning*, "Heterogeneous Urban Data Analysis and Visualization," December 27, 2021.

35. Invited Speaker at one-week Short Term Training Program (STTP) on *Computational Intelligence in Remote Sensing*, "Deep Learning for Airborne LiDAR Point Cloud Analysis for Remote Sensing," December 07, 2021.

34. Invited Speaker at Geospatial Intelligence Symposium, IEEE GRSS Mumbai Chapter, "Deep Learning for Airborne LiDAR Point Cloud Analysis for Remote Sensing," December 04, 2021.

33. Expert Talk at RCOEM ACM Student Chapter, "Multiscale Methods for Spatial Data Analysis in Diverse Applications," November 01, 2021.

32. Session Talk at Short Term Course (STC) on Data Analytics and Predictive Technologies, IDAPT, IIT BHU, "Applications of clustering and classification in LiDAR point cloud analysis and brain networks," July 08, 2021.

31. Talk at IEEE Data & Storage Symposium (DSS) 2021, "Apache Spark-Cassandra Integration for Large-scale LiDAR Point Cloud Analysis," June 30, 2021.

30. Talk at 2-day Workshop on Data Science and Curation: Spatial Data Science, "Multiscale Methods in Spatial Data Science," June 25, 2021.

29. Talk at Data Science Webinar Series, MANAV – the Human Atlas Initiative, "Network Science for Functional Segregation of Human Brain," February 18, 2021.

28. Talk at Spatial Talks Webinar, by Wo-Men Geospatial Coterie, "Geospatial and Internet of Things," February 13, 2021.

27. Talk at the NeurIPS Bangalore Meetup, "Hierarchical Organization of Functional Segregation of the Brain," December 18, 2020.

26. Webinar at the Atria Institute of Technology, Department of Computer Science and Engineering, "Data Visualization (Treemaps, Heatmaps, Bar Charts)," November 28, 2020.

25. Session talk at the AICTE ATAL Sponsored Faculty Development Programme on Advanced Geocomputational Techniques, "Scientific Computing for LiDAR Point Cloud Processing," November 04, 2020.

24. Talk at IGARSS 2020, "Influence of Aleatoric Uncertainty on Semantic Classification of Airborne LiDAR Point Clouds: A Case Study with Random Forest Classifier Using Multiscale Features," September 30, 2020.

23. Talk at WiDS Mysuru Meetup 2020, "What can the shape of neighborhood show-and-tell?," September 06, 2020.

22. Keynote talk at AICWiC 2020, ACM-W, "Data Dissemination during COVID-19: The Rise of Visualizations!," September 05, 2020.

21. Talk at ACM-W Graduate Cohort, "Online Presence and Personal Branding: You are Your Brand!," July 24, 2020.

20. Talk at IIIT-B in the Samvaad series, "Geometric Signatures of Airborne LiDAR Point Clouds," Bengaluru, Karnataka, India, February 17, 2020.

19. Invited (plenary) talk at the 4th International Conference on Computational Intelligence, Cyber Security & Computational Models (ICC3) 2019, "Exploiting Spatial Locality in Novel Applications", Coimbatore, Tamil Nadu, India, December 20, 2019.

18. Project showcase at IBM annual University Relations event, Gratitude, "Visual Analytics of Population Surveys", Bengaluru, India, November 21, 2019; with Harshitha Ravindra.

17. Poster presentation at Intel India Research Colloquium, "Uncertainty Analysis in Point Cloud Classification: Entropy in Geometric Classification and Semantic Homogeneity", Bengaluru, India, October 22, 2019; with Pragyan Mohapatra.

16. Invited talk at the Workshop for Women in Data Science and High Performance Computing (WDSHPC18), "Visual Analytics is Komorebi: For Exploring Spatial Relationships in Data and for Leveling the Playing Field in STEM Careers," HiPC 2018, Bengaluru, Karnataka, India, December 17, 2018.

15. Tutorial at the third International Conference on Intelligent Information Technologies (ICIIT 2018), "Visual Analytics: Bringing Data to Life," College of Engineering, Guindy, Tamil Nadu, India, December 10, 2018.

14. Keynote talk at the Indo-US Workshop on Modeling Dynamics, Statistical Inference, and Prediction of Infectious Diseases (WMDSIP-ID), "Visualization of Epidemiological Networks: A Case of Exploiting Spatial Locality," Sri Sathya Sai Institute of Higher Learning, Ananthapur, Andhra Pradesh, India, August 14, 2018.

13. Talk at IIIT-B in the Samvaad series, "Using Spatial Locality for Visual Analytics," Bengaluru, Karnataka, India, April 30, 2018.

12. Talk on "Visual Analytics of Airborne LiDAR Point Clouds," at the one-day workshop on Satellite Remote Sensing and Image Analysis, Activities at the Bangalore Section IEEE GRSS Chapter at ISI Bangalore, India, June 12, 2017.

11. Talk on "Visual Analytics in the Time of Big Data," at the Big Data Workshop at IIIT-B, India, April 19, 2017.

10. Dagstuhl seminar on "Multidisciplinary Approaches to Multivalued Data: Modeling, Visualization, Analysis", April 2016 – talk on "Substitutability of Symmetric Second-order Tensor Fields: An Application in Urban LiDAR 3D Point Cloud".

9. Data Science & Big Data Analytics (DSBDA 2015), C-DAC Bangalore, August 2015 – "Focus+Context Techniques for Visualizing Big Data".

8. DST (Department of Science and Technology, Govt. of India) National Airborne Lidar Meeting, IIT Kanpur, January 2015 – "Remote Interactive Visualization of Parallel Implementation of Structural Feature Extraction of Three-dimensional LIDAR Point Cloud".

7. ACM-W India Celebrations of Women in Computing (AICWIC 2014), September 2014 – "Visualization: Above All Else Show the Data".

6. Visualization and Graphics Lab, Indian Institute of Science, July 2012 – "Isosurface Extraction from Hybrid Unstructured Grids Containing Pentahedral Elements".

5. Monsanto Research Center, Bangalore, February 2012 – "Applying Non-traditional Visualization Techniques for Bioinformatics Datasets".

4. M. Esteva, W. Xu, J. Sreevalsan-Nair, A. Athalye, and M. Hade, Computational Analysis and Visualization of Electronic Records Collections, presented at the Joint Annual Meeting of the Society of American Archivists and the Council of State Archivists, Austin, TX, August 2009.

3. M. Esteva, W. Xu, J. Sreevalsan-Nair, M. Hade, and A. Athalye, Finding Narratives of Activities through Archival Bond in Electronically Stored Information (ESI), presented at the Global E-Discovery/E-Disclosure Workshop: A Pre-Conference Workshop at the 12th International Conference on Artificial Intelligence and Law, Barcelona, Spain, August 2009.

2. J. Sreevalsan-Nair and W. Xu, Analysis of Evacuation Traces, presented at IEEE VAST Conference Compendium, 2008.

1. E. van Nieuwenhuyse, J. Sreevalsan-Nair, I. Hotz, L. Linsen, and B. Hamann, Demonstration of an interactive data visualization tool for water resource monitoring networks in the Delta and its catchment, laptop demonstration at Interagency Ecological Program (IEP) Annual Workshop 2007, California, 2007.

(d) Professional Service

Conferences and Journals
- Editorial Board Member:
  - **Associate Editor, IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)**, for two consecutive terms (2021-22, 2023-24).
  - **Academic Editor, PLOS Complex Systems (PCSY)** (2023-).
  - **Associate Editor, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS)** (2024-).
  - Section Editor, Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series, Springer Cham, https://doi.org/10.1007/978-3-030-26050-7_24-1 2021-22.
- Conference/Workshop Organization:
  - IEEE International Geoscience and Remote Sensing Symposium (IGARSS) Awards Committee Member 2024.
  - **General Chair: 2023 IEEE India Geoscience and Remote Sensing Symposium (InGARSS) 2023 (Conference ID 59135, regional IEEE GRSS conference)** at IIIT Bangalore during December 10-13, 2023.
  - Proposal Bidding (as Conference Chair): IEEE International India Geoscience and Remote Sensing Symposium (InGARSS) 2023, August-December 2022.
  - Technical Program Committee Co-chair: "Machine Intelligence for GeoAnalytics and Remote Sensing" (MIGARS) 2023.
  - Track Chair: "Geoscience and Remote Sensing Technologies" at the International Conference on Electronics, Computing and Communication Technologies, IEEE CONECCT 2022.
  - Proposal Bidding (as Finance Chair): IEEE Geoscience and Remote Sensing Symposium (IGARSS) for 2025, July 2021.
- Program Committee Member:
  - Conferences [Major]: Complex Networks [2020-24], ISVC [2018-24], IEEE VIS Workshop on Topological Data Analysis and Visualization [2022-23], IEEE International Conference on Intelligent Transportation Systems (ITSC) [2023], PReMI [2023], Eurovis Short Papers [2013, 2018-20]
  - Conferences [Others]: ICCIDA [2024], ISEC [2022-24], HiPC Student Research Symposium [2017-19, 2021-22], Workshop on MINDS at the International Conference on COMmunication Systems and NETworkS (COMSNETS) [2020-22], ACN (VIT, Chennai) [2020], AICWIC 2013, ICFOCS 2011
- Reviewer:
  - Journals: PLOS Complex Systems [2024], TCSVT (IEEE Transactions on Circuits and Systems for Video Technology) [2018-24], TVCG (IEEE Transactions on Visualization and Computer Graphics) [2013-15, 2017-18, 2022-23], TIP (IEEE Transactions on Image Processing) [2023], RSASE (Remote Sensing Applications: Society and Environment) [2021-22, 2024], JSED (Journal of Social and Economic Development) [2023-24], IDM (Infectious Disease Modeling) [2024], Data in Brief [2024], EcoInf (Ecological Informatics) [2022-23], IJHC (International Journal of Human-Computer Interaction) [2022-23], CMPB (Computer Methods and Programs in Biomedicine) [2023], Applied Research (Wiley Journal) [2023], TGRS (IEEE Transactions on Geoscience and Remote Sensing) [2018-20, 2022], TCSS (IEEE Transactions on Computational Social Systems) [2021-22], Heliyon [2021-22], Displays [2022], Scientific Data [2022], JDSA (International Journal of Data Science and Analysis) [2021-22], Computers and Graphics [2021-22], Journal of Systems and Software [2022], Heliyon [2021], EPJST [2021], Visual Informatics [2021], TSMC (IEEE Transactions on Systems, Man, and Cybernetics: Systems) [2021], Human Brain Mapping [2020], JSTARS (IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing) [2018-20], Sadhna [2020], GRSL (IEEE Geoscience Remote Sensing Letters) [2019], Fluid Dynamics Research [2019], CGF (Computer Graphics Forum) [2013].
  - Conferences [Major]: TopoInVis [2022-23], IEEE VAST Challenge [2010-11, 2017-18, 2020, 2022-23], IGARSS [2023], Eurovis [2014-16, 2018-19, 2022-23], ICVGIP [2014, 2016, 2018, 2022-23], IEEE Infovis [2013-15, 2017, 2020], IEEE VAST [2013-15, 2017, 2020], IEEE Vis/SciVis [2011, 2013, 2015, 2017, 2020], VizSec [2018], EuroRV3 2017, Eurovis Short Papers [2016-17], IEEE Visualization VIP 2016, PacificVis Notes 2016, IEEE Visualization Posters [2010, 2011], PacificVis [2011, 2014, 2015, 2018].
  - Conferences [Others]: AI-ML Systems 2022, INDICON 2016, ISEC 2016, ADCOM 2016, COMAD

2016, CONECCT 2015, BDA 2013, ICDCIT 2012, DNIS 2011.
- – Grant Proposals and Completion Reports: KSCSTE (Kerala State Council for Science, Technology and Environment) [2023], DST (Department of Science and Technology, Government of India) [2022], TIH-ISI (Technology Innovation Hub at Indian Statistical Institute) [2022], NRDMS (Natural Resources Data Management System – programme of Department of Science and Technology, Government of India) [2016-18, 2020]; BRFST [2015]; CEFIPRA [2012].
- Other Relevant Conference Activities:
  - – Awards Committee Co-chair: IEEE International India Geoscience and Remote Sensing Symposium (In-GARSS) 2021, December 2021.
  - – Local Arrangements Co-chair: 8th ACM IKDD CoDS and 26th COMAD, ACM India Joint International Conference on Data Science & Management of Data, January 2021.
  - – Co-organizer for workshop on "Women in Computing" at the 26th edition of the IEEE International Conference on High Performance Computing, Data and Analytics, December 2019.
  - – Co-chair for ACM Siggraph (Bangalore chapter) 2013-14.
  - – Academic/Research Committee Member: Grace Hopper Conference India (GHCI) 2011.
  - – Program Co-chair for ACM Siggraph (Bangalore chapter) Elements 2011.
  - – Session Chair: IVAPP 2023, DeLTA 2022, GISTAM 2021, IVAPP 2018, IGARSS 2017, BDA 2013, ICFOCS 2011, GRAPP 2006.
  - – Panel Moderator: "Teaching as a Rewarding Career," GHCI 2011.

Professional Society Memberships and Activities
- ACM Senior Member (since 2022)
- IEEE Senior Member (since 2016), Society Membership - CAS, CS, EMBS, GRSS.
- Global Society Activities:
  - – **IEEE GRSS Special Awards Committee Chair, 2024**
- Regional/Local Chapter Activities:
  - – Chair, IEEE GRSS Bangalore Section Slate and Execomm (2021-23).
  - – Conceptualization and Coordinator, Monthly talk series, "Bhoo-Mandal Talk Series" at IEEE GRSS Bangalore Section (2020-23).
- INSTICC Member

Contributions as Technical Expert
- Invited Panelist for a discussion on "Research issues in Geospatial Science & Technology: Future Roadmap," NGP-NSDI User Meet, National Geospatial Programme Outreach at Geosmart 2023, Department of Science & Technology, Government of India, October 2023.
- Member of Screening Committee for Shortlisting Project Proposals under "Geospatial Science Development" under National Geospatial Programme, Department of Science & Technology, Government of India, July 2023.
- Invited Panelist for a discussion dedicated for young leaders, entrepreneurs, scholars, etc. to showcase their working experience and contribution to the growth of remote sensing and allied technologies in India and abroad, at the Golden Jubilee Celebration of the Indian Society of Remote Sensing (ISRS) and the the Journal of the Indian Society of Remote Sensing (JISRS), at the Indian Institute of Remote Sensing (IIRS), Dehradun, on February 24, 2023. The 8-member panel had participation from academia, industry (startups) and government agencies and the discussion was moderated by Prof. Bharat Lohani (IIT Kanpur).
- Graphics Expert, Committee for RFP/EoI Preparation for Implementing AR/VR Schemes Content of Tourist Sites of State of Karnataka, Department of Tourism, Government of Karnataka, 2022.
- Program Committee Member of Graphics Replicability Stamp Initiative (GRSI), International Evaluation Committee (http://www.replicabilitystamp.org/), 2021-.
- Member of Expert Panel, Geospatial Information Sectional Committee, LITD 22/Panel 3 'LiDAR' of Bureau of Indian Standards (BIS), Government of India, 2021-24.
- Member of the Project Screening Committee, for R&D proposals for "Geospatial Analytics for Revival and Restoring the Economic Growth in Post COVID-19 Scenario," National Geospatial Programme, Department of Science & Technology, Government of India, February-July 2021.
- Member of Expert Committee for "Capacity Building and Training on Geospatial Sciences & Technology," National Geospatial Program, Department of Science and Technology, Government of India, January 2021-January 2024.

- Invited member for brain-storming session on "Spatial Data Infrastructures for Smart City Development" by Department of Science & Technology, Government of India, September 2016.
- Invited member of a decision-making team for revision of courses in Computer Graphics across India and revision of syllabus for basic Computer Graphics course listed in course catalog by AICTE (All India Council for Technical Education, Government of India), 2011-12.

Service to External Academic Institutions
- Ph.D. thesis examination:
  - External examiner for Ph.D. thesis examination of Mr. Dheerendra Pratap Singh, Department of Civil Engineering, MNIIT, Allahabad, January 2024.
  - External examiner for Ph.D. thesis examination of Ms. Seema B. Siledar, Department of Computer Science and Engineering, Dr. Babasaheb Ambedkar Marathwada University, Pune, November 2023.
  - External examiner for Ph.D. thesis examination of Ms. Dimple A. Shajahan, Department of Engineering Design, IIT Madras, August 2021; thesis viva voce, Oct 2021.
  - External examiner for pre-Ph.D. examination of Dr. Eesha Sharma, at the National Institute of Mental Health and Neuro Sciences (NIMHANS), in Apr 2019.
  - External thesis examiner for M.Engg. candidate, Kanuj Kumar, Indian Institute of Science, Karnataka – Jan 2013.
  - External viva examiner for Ph.D. candidate, Devi Sudheer Kumar CH, Sri Sathya Sai Institute of Higher Learning, Prashanthi Nilayam, Andhra Pradesh, India – Oct 2012.
- Masters thesis examination:
  - External examiner for M.S. thesis examination of Mr. Dhawal Sirikonda, Computer Science, IIIT Hyderabad, Telangana, Jun 2023.
- Board of Studies:
  - Member of the Board of Studies, Data Science Cluster, BMS College of Engineering, Bengaluru (2023-2026).
  - Special Invitee, Board of Studies, School of Engineering and Technology, CMR Unversity, Bengaluru (June 2022).
  - Member of the Board of Studies, Central University of Karnataka, Kalaburagi (2020-23).
- External expert member:
  - External expert to vet the proposed curriculum of undergraduate CSE (autonomy) batch of 2023, TKM College of Engineering, Kollam, Kerala, April 2023.
  - External Expert Member, Research Review Committee (RRC), Department of IT, MGM University, Aurangabad, May 2021-22.
  - Expert member of CSE Online Faculty Recruitment Board, Presidency University, March 2021, May 2021.
  - External expert for "Analytics" in faculty selection panel, at Narsee Monjee Institute of Management Studies, Bangalore, in Jul 2019.
  - External examination question paper setter for course 18CSE104 – Big Data Analytics, at Nitte Meenakshi Institute of Technology, Bangalore, in Jan 2019.
  - External thesis examiner for Ph.D. candidate, Ms. Nisha Jain, at Indian Institute of Technology, Delhi – thesis examination in Sep 2016, thesis defense in Dec 2016.
  - External expert in selection committees for Project-Linked-Person (research associate) at ISI Bangalore, Aug 2015, Apr 2016, May 2016.

(e) Thesis Supervision/ Technical Mentoring

Thesis/Final Project Advisor for Doctoral Students (Completed/in the Process of Graduation)
(in the reverse chronological order of completion of graduation requirements)

6. Ramesh Naidu Laveti, Doctor of Philosophy (2022-), *(co-supervisor: Prof. T. K. Srikanth), Thesis topic: "Deep Learning for Inferences from Biomedical Data of Human Brain," (in progress)*, IIIT-B

5. Beryl Gnanaraj, Doctor of Philosophy (2021-), Thesis topic: *"Human Computer Interaction in Health Survey Administration," (in progress)*, IIIT-B

4. Ancy Thomas, Doctor of Philosophy (2021-), Thesis topic: *"Spatial Analysis for Susceptibility Mapping of Natural Hazards," (in progress)*, IIIT-B

3. Harshitha Ravindra, Doctor of Philosophy (2018-), Thesis topic: *"Spatial and Visual Analytics of Population Survey Data Using Grouping Strategies," (in progress)*, IIIT-B

2. Rani Reddy V., Doctor of Philosophy (2016-21), Thesis title: *"Novel Uses of Correlation Networks and Consensus Node-Communities for Biomedical Data Analysis," (completed in Aug 2021)*, IIIT-B

1. Joy Prabhakaran, Doctor of Philosophy (2012-18) , *(co-supervisor since 2015; supervisor: Prof. P. G. Poonacha)*, Thesis title: *"Novel Techniques in Image Zooming and Hierarchical Multi-resolution Image Representation," (completed in Jan 2018)*, IIIT-B

Thesis/Final Project Advisor for Masters Students (Completed/in the Process of Graduation)
(in the reverse chronological order of completion of graduation requirements)

18. Krishnakumar N, Master of Science by Research (2024-), Thesis title: *"Analytics for Creating Benchmark UAV LiDAR Dataset," (in progress)*, IIIT-B

17. Butani Prince Nileshbhai, Master of Science by Research (2022-), Thesis title: *"Automating Segmentation of Choropleths and Isarithmic Maps," (in progress)*, IIIT-B

16. Aswathi Mundayatt Valappil, Master of Science by Research (2022-), Thesis title: *"Flood Susceptibility and Extent Mapping," (in progress)*, IIIT-B

15. Pragyan Mohapatra, Master of Science by Research (2018-), Thesis title: *"Geometry-based Uncertainty Analysis of LiDAR Point Clouds," (in progress)*, IIIT-B

14. Dhvani Katkoria, Master of Science by Research (2019-22), Thesis title: *"Spatiotemporal Analytics of LiDAR Data for Environmental Perception to Assist Autonomous Driving," (completed in Oct 2022)*, IIIT-B

13. Daggubati Siri Chandana, Master of Science by Research (2019-22), Thesis title: *"Chart Decode: An Automated System for Data Table Extraction and Summary Generation from Chart Images," (completed in May 2022)*, IIIT-B

12. Satendra Singh, Master of Science by Research (2017-21), Thesis title: *"A Distributed System for Multiscale Analysis and Visualization of Large-scale Airborne LiDAR Point Clouds," (completed in Nov 2021)*, IIIT-B

11. Komal Dadhich, Master of Science by Research (2018-21), Thesis title: *"A Semi-automated Algorithm for Data Extraction from Images of Bar Charts and Scatter Plots Using Tensor Fields," (completed in Jun 2021)*, IIIT-B

10. Ankita Christine Victor, Master of Technology (2018-19), Thesis title: *"Synthesis of Three-dimensional Virtual Worlds from Monocular Images of Urban Road Traffic Signs,"(completed in Jun 2019)*, IIIT-B

9. Dattanand Arun Raykar, Sponsored Master of Technology (with Samsung India Pvt. Ltd.) (2018-19), Thesis title: *"Realistic Cloth Simulations Using Data-driven Upsampling," (completed in Jun 2019)*, IIIT-B

8. Kishor Gandhi, Sponsored Master of Technology (with Samsung India Pvt. Ltd.) (2015-17), Final Project title: *"Three-dimensional Model Visualization in a Mobile VR Environment," (completed in May 2017)*, IIIT-B

7. Siba Prasad Samal, Sponsored Master of Technology (with Samsung India Pvt. Ltd.) (2015-17), Thesis title: *"Parallel Implementation of a Random Accessible Progressive Compression Algorithm for Polygonal Meshes," (completed)*, IIIT-B

6. Raghavan Vellappan, Sponsored Master of Technology (with Samsung India Pvt. Ltd.)((2015-17), Thesis title: *"Progressive Compression Algorithm for Faster Transmission of 3D Mesh Data," (completed in May 2017)*, IIIT-B

5. Beena Kumari, Master of Science by Research (2013-16), Thesis title: *"Visualization Techniques in Classification of 3D LiDAR Urban Point Cloud," (completed in Jun 2016)*, IIIT-B

4. Anuja Pinge, Master of Technology (2014-15), Thesis title: *"Isosurface Extraction Using Marching Cubes and Contour Trees," (completed in Jun 2015)*, Goa University

3. Amit Tomar, Master of Technology (2014-15), Thesis title: *"Augmenting NodeTrix for Effective Small World Network Visualization,"* *(completed in Jun 2015)*, IIIT-B

2. Shivam Agarwal, Master of Technology (2014-15), Thesis title: *"Visualization of Hard Clustering of Document Collections,"* *(completed in Jun 2015)*, IIIT-B

1. Saima Parveen, Master of Science by Research (2011-13), Thesis title: *"Visualization of Transformation of Graphs Based on Similarity Functions,"* *(completed in Jun 2013)*, IIIT-B

Supervisor and Mentor for Staff Members of Research Projects

15. Ms. Beryl Gnanaraj, IBM,FRHS, Sep 2020 - Aug 2021, implemented at IIIT-B

14. Ms. Chayanika Devi, SERB,EHRC, Mar 2020 - Sep 2020, implemented at IIIT-B

13. Ms. Kunika Valecha, MINRO, Aug 2019 - Jul 2021, implemented at IIIT-B

12. Ms. Harshitha Ravindra, EHRC, Aug 2018 - Jul 2019, implemented at IIIT-B

11. Mr. Bhargav Ram K. S., IBM, Jul 2018 - Jul 2019, implemented at IIIT-B

10. Ms. Minerva Panda, IBM, Jul 2018, implemented at IIIT-B

9. Ms. Shivangi Motwani, SERB, Jan 2018 - Jun 2019, implemented at IIIT-B

8. Ms. Kuhu Gupta, FRHS, Jul 2017 - May 2018, implemented at IIIT-B

7. Mr. Nilay Engineer, INCOIS, Jul 2016 - Jun 2017, implemented at IIIT-B

6. Mr. Shivam Agarwal, INCOIS, Jul 2015 - Jun 2017, implemented at IIIT-B

5. Mr. Raghavendra G. S. , INCOIS, Jul 2015 - Jul 2016, implemented at IIIT-B

4. Ms. Beena Kumari, NRDMS, EMC^2, FRHS, Apr 2013 - May 2016, implemented at IIIT-B

3. Mr. Avijit Ashe, NRDMS, Jan 2014 - Feb 2015, implemented at IIIT-B

2. Ms. Pavithra Rajendran, NRDMS, Nov 2013 - Apr 2014, implemented at IIIT-B

1. Dr. Kiruba Bagirathi, NRDMS, Aug 2012 - Aug 2013, implemented at IIIT-B

Post-doctoral Researchers

1. Dr. Kiruba Bagirathi, Doctor of Philosophy (Mathematics), on UGC postdoctoral fellowship (2014-16), implemented at IIIT-B

Interns

15. Mr. Anirudh T N, Bachelor of Engineering (Year 2), SSN College of Engg, Chennai, 07/2021, implemented at IIIT-B

14. Ms. Astha Jakher, Integrated M.Sc., Economics (Year 3), IIT Kharagpur, 05/2020, implemented at IIIT-B

13. Ms. Keerthana M., Integrated M.Sc., Data Science (Year 3), PSG College of Technology, Coimbatore, 05/2020, implemented at IIIT-B

12. Ms. Sreenila Rajesh, Integrated M.Sc., Data Science (Year 3), PSG College of Technology, Coimbatore, 05/2020, implemented at IIIT-B

11. Mr. Tarun Kukreja, Bachelor of Technology, CSE (Year 3), MSIT (GGSIPU) New Delhi, 07/2018, implemented at IIIT-B

10. Mr. Chatti Bhanu Venkata Sai Phani, Bachelor of Technology, CSE (Year 3), IIIT Vadodara, 05/2018, implemented at IIIT-B

9. Ms. Minerva Panda, Bachelor of Technology, CSE (Year 4), IIIT Bhubaneshwar, 01/2018, implemented at IIIT-B

8. Mr. Ekansh Garg, Dual Degree, Civil Engg. (Year 4), IIT Madras, Chennai, 12/2017, implemented at IIIT-B

7. Ms. Harini V., Bachelor of Technology, CSE (Year 1), RVCE, Bangalore, 06/2017, implemented at IIIT-B

6. Ms. Minerva Panda, Bachelor of Technology, CSE (Year 3), IIIT Bhubaneswar, 05/2017, implemented at IIIT-B

5. Ms. Khushboo Bhuwalka, Bachelor of Engineering, IT (Year 3), NIT Raipur, 05/2016, implemented at IIIT-B

4. Mr. Sunit Adhikary, Bachelor of Engineering, CSE (Year 2), IIIT Guwahati, 05/2016, implemented at IIIT-B

3. Mr. Dinesh Prashanth, Bachelor of Engineering, CSE (Year 2), NIT Trichy, 05/2011, implemented at IIIT-B

2. Ms. Jai Brahmakshatriya, Bachelor of Engineering, IT (Year 2), NIT Suratkal, 05/2011, implemented at IIIT-B

1. Mr. Abhinit Modi, Bachelor of Engineering, Computer Engg. (Year 2), NIT Suratkal, 05/2011, implemented at IIIT-B

Other Mentoring Activities

4. D. Vivek, C. Sultania, P. Bhutada, and J. Sreevalsan-Nair (mentor), *VR Time Travelers*, Proposal accepted for the IEEE CS Hack the Metaverse 2023 (hacakathon), August 2023.

3. T. Khodwe, D. Singhal, K. Partani, and J. Sreevalsan-Nair (mentor), *VR Dyslexic*, Proposal accepted for the IEEE CS Hack the Metaverse 2023 (hacakathon), August 2023.

2. UG Mentorship Program, Women's Forum, IITM, 2022-23, India

1. ACM MentorNet, e-mentoring graduate & undergraduate students, 2007-11, Global

(f) Teaching

given as: (mm/yyyy) Course-code Course-name

** *designed and delivered the elective course;* * *co-designed elective course, and delivered guest lectures;* $^{\#\#}$ *postgraduate core course,* $^{\#}$ *undergraduate core course;* $^{+}$ *course offered to multiple classes during a semester – M.Tech., sponsored M.Tech., (in boldface) courses handled in entirety, while others are co-taught with another faculty member.*

Courses Taught at IIIT-B

52. (08/2023) **DT107** Application Development for a Connected Society

51. (08/2023) **CS732** Data Visualization

50. (08/2023) CS714 Advanced Computer Graphics

49. (01/2023) **AI724** Statistical Techniques for Spatio-Temporal Data Analysis

48. (01/2023) **CS762** Advanced Data Visualization

47. (01/2023) **CS606** Computer Graphics

46. (08/2022) **DT107** Application Development for a Connected Society

45. (08/2022) **CS732** Data Visualization

44. (01/2022) CS606 Computer Graphics

43. (01/2022) **CS762** Advanced Data Visualization

42. (08/2021) **DT107** Application Development for a Connected Society

41. (08/2021) CS714 Advanced Computer Graphics

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40. (08/2021) **CS732** Data Visualization

39. (01/2021) CS606 Computer Graphics

38. (08/2020) **DT107** Application Development for a Connected Society

37. (08/2020) ESS201 Programming II (Lecture and Lab, Module on C++) [#]

36. (08/2020) **CS732/DS732** Data Visualization

35. (01/2020) CS606 Computer Graphics [+]

34. (08/2019) **DT107** Application Development for a Connected Society

33. (08/2019) ESS201 Programming II (Lecture and Lab (Module on C++)) [#]

32. (08/2019) **CS732/DS732** Data Visualization

31. (08/2019) CSxxx Project Electives: Advanced Computer Graphics

30. (01/2019) **CS832/DS832** Special Topics in Advanced Data Visualization [**]

29. (01/2019) CS606 Computer Graphics

28. (08/2018) **DT107** Application Development for a Connected Society

27. (08/2018) ESS201 Programming II (Lecture and Lab (Module on C++)) [#]

26. (08/2018) **CS732/DS732** Data Visualization

25. (01/2018) Advanced Computer Graphics

24. (08/2017) ESS201 Programming II (Lecture and Lab (Module on C++)) [#]

23. (08/2017) **CS732/DS732** Data Visualization

22. (08/2017) Foundations of Computer Graphics [#]

21. (01/2017) Introduction to Computer Graphics [+]

20. (08/2016) CS709 Geometric Modeling [*]

19. (08/2016) CS856 Advanced Computer Graphics

18. (08/2016) **CS713/DS713** Data Visualization

17. (01/2016) CS606/DS606 Introduction to Computer Graphics

16. (01/2016) GEN601 Scientific Computing [**]

15. (08/2015) **CS713/DS713** Data Visualization

14. (01/2015) CS606/DS606 Introduction to Computer Graphics

13. (01/2015) **GEN601** Introduction to Scientific Computing

12. (08/2014) **CS713/DS713** Data Visualization [**]

11. (08/2014) CS856 Advanced Computer Graphics [**]

10. (08/2014) CC109-Lab Operating Systems Lab (Anchor-faculty) [#]

9. (01/2014) CS606/DS606 Introduction to Computer Graphics

8. (01/2014) **GEN601** Introduction to Scientific Computing [**]

7. (08/2013) **CS606/DS606** Introduction to Computer Graphics

6. (01/2012) CS110 Operating Systems [##]

5. (08/2011) **CS606/DS606** Introduction to Computer Graphics

4. (07/2011) PS102 Probability & Statistics (Module)

3. (01/2011) CS110 Operating Systems [##]

2. (08/2010) **CS606/DS606** Introduction to Computer Graphics [**]

1. (07/2010) PS102 Probability & Statistics (Module)

Additional University Teaching Experience

12. (08/2022) PGCIL Module on Data Visualization, Instructor for IIIT-B-Upgrad Continuing Professional Education (CPE) Programme of Post Graduate Diploma for Power Grid Corporation of India Ltd.

11. (08/2022) PGDB203A Image Informatics (Module on Visualization), Instructor for IBAB-IIIT-B Joint Programme of Post Graduate Diploma in Big Data in Biology

10. (08/2021) PGDB203A Image Informatics (Module on Visualization), Instructor for IBAB-IIIT-B Joint Programme of Post Graduate Diploma in Big Data in Biology

9. (04/2021) PGCIL Module on Data Visualization, Instructor for IIIT-B-Upgrad Continuing Professional Education (CPE) Programme of Post Graduate Diploma for Power Grid Corporation of India Ltd.

8. (08/2020) PGDB203A Image Informatics (Module on Visualization), Instructor for IBAB-IIIT-B Joint Programme of Post Graduate Diploma in Big Data in Biology

7. (01/2020) PGDB105B Healthcare Informatics, Co-Instructor for IBAB-IIIT-B Joint Programme of Post Graduate Diploma in Big Data in Biology

6. (08/2019) PGDB203A Image Informatics (Module on Visualization), Instructor for IBAB-IIIT-B Joint Programme of Post Graduate Diploma in Big Data in Biology

5. (01/2019) PGDB105B Healthcare Informatics, Co-Instructor for IBAB-IIIT-B Joint Programme of Post Graduate Diploma in Big Data in Biology

4. (07/2011) Introduction to Information Visualization (Module), Guest Instructor at the National Institute of Design, Bangalore (on invitation)

3. (10/2008) Introduction to Scientific Visualization, Training at the Texas Advanced Computing Center, University of Texas at Austin

2. (01/2006) Discrete Mathematics & its Applications [#], Teaching Assistant at University of California, Davis

1. (04/2005) Introduction to Computer Graphics [#], Teaching Assistant at University of California, Davis

Industry Outreach

5. (2021 –) Technical advisor for Data Collection Infotech (India) Pvt. Ltd. (DCIL)

4. (08/2018 – 10/2018) Mentor faculty for Hyperreality Technologies, IIIT-B Innovation Center

3. (01/2016 – 05/2016) Consultant to Altair India Pvt. Ltd.

2. (04/2010 – 03/2012) Advisory Board Member for EurekaZing Inc.

1. (12/2010) Computer Graphics: Theory & Practice, Industrial training at LG India Pvt. Ltd., Bangalore

(g) Institutional Service

Research Administration at IIIT-B
- IIIT-B Editorial Board Convenor and Member (2023-).
- Research Portfolio/SIG manager for "Spatio-temporal Modeling, Simulation, Analytics, and Visualization" (2021-22).
- Samvaad weekly seminar series coordinator (2019-22).
- Core committee member for E-Health Research Center (2016-).
- Planning Committee Chairperson of the E-Health Research Center (2015).
- Chairperson of the e-health Committee (2014-15).
- Founding Member of Center for Data Sciences (2014).
- Founder & Head of Graphics-Visualization-Computing-Lab (2012-).
- Steering Committee Member for IIIT-B Mediacenter (2011-12).

Administration Activities at IIIT-B (Academic and Others)
- Member of the Curriculum Revamping Committee for M.Sc. Digital Society (2023).
- Member of the National Education Policy (NEP2020) Committee for strategy planning (2022-23).
- Member of the Committee to Formulate Guidelines for Digital Hygiene & Social Media Etiquette (2022).
- Women's hostel warden, including ex-officio positions in Student Disciplinary Committee and Anti-Drugs Committee (2020-22).
- Member of the Selection Committee of Seed Funding for Startups in the IIIT-B Innovation Center, MeitY TIDE 2.0 G2 Centre, by Ministry of Electronics and Information Technology, Govt. of India (2020-22).
- Convener for Senate sub-committee for Post Graduate Diploma Course on Big Data in Biology, joint program with IBAB (2018-22).
- Research Domain Representative (Data Science), Research Execomm Member (2017-2019).
- Faculty-in-charge/Editor of monthly IIIT-B newsletter (2014-2019).
- Member of Internal Quality Assurance Committee (2014-16).
- Chairperson of Research Programmes Admissions Committee (2014-16).
- Coordinator for Master of Science (Research) and Ph.D. Degree Programmes (2014-16).
- Convenor of Committee for Revision of Research Degree Programmes (2013-14).
- Core Member of Internal Committee for Preparing for (national) NAAC Accreditation (2013-14) *(IIIT-Bangalore has been accredited with A grade by NAAC in May 2014)*
- Member of Institute Library Management Committee (2011-2012).
- Member of Committee for Curriculum Design of Integrated M.Tech. Program (2011-12).
- Serving on Ph.D. Comprehensive Examination Boards and Oral Examination Committees for M.Tech. and Master of Science by Research theses (2011-).