Jaya Sreevalsan Nair

Associate Professor · Visual Analytics Researcher

International Institute of Information Technology Bangalore, 26/C Electronics City, Hosur Road, Bangalore, India 560100

(+91) 80 4140 7777 | jnair@iiitb.ac.in | www.iiitb.ac.in/GVCL | jayanair | DBLP | Google Scholar

Areas of Interest

- Visual analytics for spatial big data (including scientific and information visualization)
- Small-world networks and similar complex networks [e.g. co-authorship, transportation, and biological]
- Matrix and tensor-based data models and topological methods in visualization
- Applications in earth observations [e.g. visualizations for Geographical Information Systems (GIS), geological/ geospatial and ocean datasets], healthcare, mobility, and urban computing
- High performance computing (such as, GPGPU computing for visualization applications)

Education

University of California, Davis — *California, U.S.A.*

Ph.D. in Computer Science — *Aug 2002 - Mar 2007*

- Thesis: Computational and Interactive Visualization with a Focus on Topological Analysis, Dual Contouring, and Water-resource Data Representation. (Advisor: Prof. Bernd Hamann)

Mississippi State University — *Mississippi, U.S.A.*

M.S. in Computational Engineering — *Aug 2000 - July 2002*

- Thesis: Modular Processing of Two-dimensional Significance Maps for Efficient Feature Extraction. (Advisor: Prof. David S. Thompson)

Indian Institute of Technology Madras — *Tamil Nadu, India*

Bachelor of Technology in Aerospace Engineering — *July 1996 - July 2000*

- Senior year project: Displacement-based Polygonal Finite Elements. (Advisor: Prof. G. Subramanian.)

Employment History

International Institute of Information Technology Bangalore (IIITB) — *Karnataka, India*

Associate Professor — *Sep 2017 - present*

Assistant Professor — *Jun 2010 - Aug 2017*

- Founded and heading a well-funded lab, Graphics-Visualization-Computing Lab
- Supervised seven Masters thesis students, three research associates, and one post-doctoral researcher; currently supervising two Ph.D. students and one research associates.
- Administrative coordinator of research degree programs (Ph.D. and M.S.) (2014-2016); streamlined administrative processes for admission in the capacity of chairperson of the Research Programs Admissions Committee (RPAC) (2014-16).
- Chairperson of e-health committee which launched the E-Health Research Center in Aug 2015; currently core executive committee member of the Center.

Indian Statistical Institute Bangalore — *Karnataka, India*

Visiting Scientist — *June 2016*

- Worked on data modeling and visual analytics of subsidence using InSAR data.

Texas Advanced Computing Center, University of Texas at Austin — *Texas, U.S.A.*

Research Associate — *Apr 2008 - Apr 2009*

- Research on tensor field topology extraction in 2D grids, and isosurface extraction of large-scale unstructured grids; conducted training modules on graphics and visualization

Enthought Inc. — *Texas, U.S.A.*

Scientific Programmer — *Feb 2007 - Mar 2008*

- Contributed to the company's contract projects in geospatial application, programmed in Python.

Institute of Data Analysis and Visualization, University of California, Davis — *California, U.S.A.*

Graduate Student Researcher — *Aug 2002 - Dec 2006*

- Worked on several visualization projects – geospatial applications, volume grids, tensor field topology-based visualization.

Engineering Research Center, Mississippi State University — *Mississippi, U.S.A.*

Graduate Research Assistant — *Aug 2000 - July 2002*

- Contributed to source code for data processing workflow in the NSF-funded EVITA project.

Awards and Recognition

India	**Early Career Research Award**, Science and Engineering Research Board, Govt. of India (GoI)	*2017*
Global	**Senior Member**, IEEE	*2016*
India	**International Travel Grant for Young Scientists**, Dept. of Science & Technology, GoI	*2012*
[Univ. of Californ-nia]	**CITRIS Fellowship**, The Center for Information Technology Research in the Interest of Society	*2005*
India	**Top 99 percentile score**, IIT-JEE (Indian Institute of Technology - Joint Entrance Examination), a highly competitive national examination for admission to professional courses	*1996*
India	**Top 99.9 percentile score**, All India Senior School Certificate Examination in Chemistry	*1996*
India	**Gold Medalist**, Proficiency in AISSCE in St.Thomas Central School, Thiruvananthapuram	*1996*
India	**Gold Medalist**, Proficiency in AISSE in St.Thomas Central School, Thiruvananthapuram	*1994*
Global	**Distinction**, 7th Arab Regional Junior U.N. Exam organized by United Schools International	*1992*

Grants

Principal Investigator

Visual Analytics of Population Health Surveys — *From June 2018 (18 months)*
IBM Shared University Grant — *INR 19,55,000/- (≈ USD 28,500/-)*

Visual Analytics of Public Health Data — *From Jul 2017 (12 months)*
Foundations of Research in Health Systems (FRHS), India — *INR 10,00,000/- (≈ USD 15,400/-)*

Tensor Modeling and Visualization of Three-dimensional Geospatial Datasets — *From May 2017 (36 months)*
Early Career Research Award, Science and Engineering Research Board, Government of India — *INR 14,83,900/- (≈ USD 23,000/-)*

Interactive Three-dimensional Visualization of Large-scale ARGO Data — *From Aug 2014 (36 months)*
Indian National Center for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Government of India — *INR 40,30,000/- (≈ USD 67,000/-)*

Visual Analytics for Early Detection of Child Malnutrion — *From Jan 2016 (18 months)*
Foundations of Research in Health Systems (FRHS), India — *INR 10,00,000/- (≈ USD 15,090/-)*

Visualization of Security Analytics — *Jan 2014 - Dec 2014 (12 months)*
EMC^2-RSA India Center of Excellence — *INR 10,00,000/- (≈ USD 16,000/-)*

LAN-Based Interactive Three Dimensional Visualization of LiDAR Point Cloud Data — *Aug 2012 - Feb 2015 (30 months)*
Natural Resources Data Management System (NRDMS) Program, Department of Science and Technology, Government of India — *INR 32,25,000/- (≈ USD 52,000/-)*

NVIDIA Center for Teaching CUDA (CTC), one-time institutional grant — *August 2011*
NVIDIA — *USD. 2500/- (≈ INR 1,35,000/-)*

- For teaching assistant matching funds and four GeForce GTX480s and one Tesla C2070 graphics cards

Co-Principal Investigator

Seed Grant for E-Health Research Center (PI: Dr. T. K. Srikanth, IIIT-B) — *Jan 2018 - Jun 2019*
Ministry of Healthcare and Family Welfare, Government of Karnataka — *INR 2,30,00,000/- (≈ USD 350,000/-)*

High Resolution DNS of 3D-MHD turbulence with varying PrM & Spectral, statistical and toplogical analysis of Magnetic Structures formed with some implications to Plasma Fusion Devices (PI: Dr. Shiva Kumar Malapaka, IIIT-B) — *Aug 2017 - Jul 2020*
BRNS — *INR 34,80,000/- (≈ USD 52,951/-)*

Publications

Peer-reviewed/Refereed Journal/Magazine Articles

- **A4. 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, 11(7), pp 2320-2335, July 2018. https://doi.org/10.1109/JSTARS.2018.2833801
- **A3. J. Sreevalsan-Nair**, "A Survey of Requirements of Multivariate Data and its Visualizations for Analysis of Child Malnutrition in India," Data Science Communications, vol. 1, IIITB Press, 1–26, October 2016.
- **A2. J. Sreevalsan-Nair**, L. Linsen, and B. Hamann, "Topologically Accurate Dual Isosurfaces using Ray Intersection," Journal of Virtual Reality and Broadcasting 4(4), 2007 (invited to special issue of Intl Conf on Computer Graphics Theory & Applications, 2006).
- **A1.** D. Thompson, R. Machiraju, M. Jiang, **J. Nair**, G. Craciun, and S. Venkata, "Physics-Based Feature Mining for Large Data Exploration," Computing in Science and Engineering, Vol. 4, No. 4, 2002, pp 22-30, IEEE Computer Society. *Impact factor: 0.973*

Peer-reviewed/Refereed Conference/Workshop Papers & Book Chapters

- **C18. 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, pp 313-325, Springer, Singapore, November 2018. https://doi.org/10.1007/978-981-13-2330-0_23
- **C17.** 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 the Proceedings of the 13th International Joint Conference on Computer Vision, Imaging, and Computer Graphics Theory and Applications (VISIGRAPP 2018), vol 3: IVAPP, SCITEPRESS, pp. 289-300, 2018. https://doi.org/10.5220/0006622302890300
- **C16. 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 the Proceedings of the 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2017), July 2017. https://doi.org/10.1109/IGARSS.2017.8128347
- **C15. 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," Mathematics and Visualization Series, Springer, Cham, pp 175-200, October 2017. (*Proceedings of Dagstuhl Seminar 16142*) https://doi.org/10.1007/978-3-319-61358-1_8
- **C14. J. Sreevalsan-Nair**, and S. Agarwal, "NodeTrix-CommunityHierarchy: Techniques for Finding Hierarchical Communities for Visual Analytics of Small-world Networks," in the Proceedings of 12th International Joint Conference on Computer Vision, Imaging, and Computer Graphics Theory and Applications (VISIGRAPP 2017), vol 3: IVAPP, pp 140-151, SCITEPRESS, 2017. (**Nominated for Best Paper Award**). https://doi.org/10.5220/0006175701400151 *(Acceptance rate: 25%)*
- **C13.** S. Agarwal, A. Tomar, and **J. Sreevalsan-Nair**, "NodeTrix-Multiplex: Visual Analytics of Multiplex Small World Networks," in Complex Networks & Their Applications V, Studies in Computational Intelligence, vol. 693, pp 579-591, Springer International Publishing, 2017. https://doi.org/10.1007/978-3-319-50901-3_46 *(Acceptance rate: 32%)*
- **C12.** B. Kumari, and **J. Sreevalsan-Nair**, "An interactive visual analytic tool for semantic classification of 3D urban LiDAR point cloud," InProceedings of the 23rd SIGSPATIAL International Conference on Advances in Geographic Information Systems 2015 (p. 73:1–73:4), ACM. https://doi.org/10.1145/2820783.2820863 *(Acceptance rate: 23%)*
- **C11.** B. Kumari, A.Ashe, and **J. Sreevalsan-Nair**, "Remote Interactive Visualization of Parallel Implementation of Structural Feature Extraction of Three-dimensional Lidar Point Cloud," in the Proceedings of the Third International Conference on Big Data Analytics, Lecture Notes in Computer Science (LNCS) Series, Vol. 8883, 2014, pp 129-132, Springer. https://doi.org/10.1007/978-3-319-13820-6_10
- **C10.** S. Parveen, and **J. Sreevalsan-Nair**, "Visualization of Small World Networks Using Similarity Matrices," in the Proceedings of the Second International Conference on Big Data Analytics, Lecture Notes in Computer Science, Volume 8302, 2013, pp 151-170, Springer. https://doi.org/10.1007/978-3-319-03689-2_10
- **C9.** A. Narayan, **J. Sreevalsan-Nair**, K. Gaither, and B. Hamann, "Isosurface Extraction from Hybrid Unstructured Grids Containing Pentahedral Elements," Kraus, M., Laramee, R.S., Battiato, S., de Campos, T., Jurie, F., Kato, Z. and Raducanu, B., eds., Proceedings of International Conference on Information Visualization Theory and Appli-

cations 2012 (GRAPP/IVAPP 2012), 660-669. https://doi.org/10.5220/0003852506600669 *(Acceptance rate: 18%)*

- **C8. J. Sreevalsan-Nair**, C. Auer, B. Hamann, and I. Hotz, "Eigenvector-based Interpolation and Segmentation of 2D Tensor Fields," Topological Data Analysis and Visualization: Theory, Algorithms, and Applications, Springer-Verlag Mathematics and Visualization Series, 2011, 139-150, Springer-Verlag. https://doi.org/10.1007/978-3-642-15014-2_12
- **C7.** C. Auer, **J. Sreevalsan-Nair**, V. Zobel, and I. Hotz, "2D Tensor Field Segmentation," Proceedings of Dagstuhl Conference 2009 on Scientific Visualization: Interactions, Features, Metaphors, Dagstuhl Follow-Ups, Hagen, Hans (Ed.), Vol. 2, Schloss Dagstuhl–Leibniz-Zentrum für Informatik 2011, 17-35. https://doi.org/10.4230/DFU.Vol2.SciViz.2011.17
- **C6.** I. Hotz, **J. Sreevalsan-Nair**, H. Hagen, and B. Hamann, "Tensor Field Reconstruction based on Eigenvector and Eigenvalue Interpolation," Scientific Visualization: Advanced Concepts, Schloss Dagstuhl-Leibniz-Zentrum für Informatik 2010, 110-123. https://doi.org/10.4230/DFU.SciViz.2010.110
- **C5.** W. Xu, and **J. Sreevalsan-Nair**, "Visual Representation of Multiple Associations in Data using Constrained Graph Layout," Proceedings of EG UK Theory and Practice of Computer Graphics 2009, 65-68. https://doi.org/10.2312/LocalChapterEvents/TPCG/TPCG09/065-068 *(Acceptance rate: 50%)*
- **C4. 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," Proceedings of Engineering Stochastic Local Search Algorithms (SLS) 2007, Lecture Notes in Computer Science (LNCS) Series, Vol. 4638, Springer-Verlag, Heidelberg, Germany, pp. 182-186. https://doi.org/10.1007/978-3-540-74446-7_14
- **C3. J. Sreevalsan-Nair**, E. van Nieuwenhuyse, I. Hotz, L. Linsen, and B. Hamann, "An Interactive Visual Exploration Tool for Northern California's Water-Monitoring System," Visualization and Data Analysis 2007, SPIE, pp 649506:1-649506:12. https://doi.org/10.1117/12.703695 *(Acceptance rate: 50%)*
- **C2. J. Sreevalsan-Nair**, L. Linsen, and B. Hamann, "Using Ray Intersection for Dual Isosurfacing," Proceedings of International Conference on Computer Graphics Theory and Applications, Setúbal, Portugal, February 2006. https://doi.org/10.20385/1860-2037/4.2007.4 *(Acceptance rate: 30%)*
- **C1. 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.

Invited Articles

- **I1. J. Sreevalsan Nair**, "Paving the Way for Geovisual Analytics," Advanced Computing & Communications, issue 3, ACCS, Decmeber 2017.

Miscellaneous: Technical Reports, Demonstrations, Challenges

- **M9. 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," (accepted as poster) in the 8th Workshop on Visual Analytics in Healthcare, affiliated with IEEE VIS 2017. (peer-reviewed)
- **M8.** K. Prasad 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," 19th Annual International Conference on High Performance Computing 2012 - Student Research Symposium (HiPC2012-SRS), Poster presentation, Dec. 2012. *(Acceptance rate: 20%)*
- **M7.** K. Patel, J. Savalia, and **J. Sreevalsan-Nair**, "Parallelization of Complex Event Processing," 18th Annual International Conference on High Performance Computing 2011 - Student Research Symposium (HiPC2011-SRS), Oral Presentation, Dec. 2011, url *(Acceptance rate: 20%)*
- **M6.** M. Esteva, W. Xu, **J. Sreevalsan-Nair**, A. Athalye, and M. Hade, "Computational Analysis and Visualization of Electronic Records Collections," Joint Annual Meeting of the Society of American Archivists and the Council of State Archivists, Austin, TX, August 11, 2009.
- **M5.** Esteva, W. Xu, **J. Sreevalsan-Nair**, M. Hade, and A. Athalye, "Finding Narratives of Activities through Archival Bond in Electronically Stored Information (ESI)," Global E-Discovery/E-Disclosure Workshop: A Pre-Conference Workshop at the 12th International Conference on Artificial Intelligence and Law, Barcelona, Spain, August 6, 2009.
- **M4. J. Sreevalsan-Nair**, and W. Xu, "Analysis of Evacuation Traces," IEEE VAST Conference Compendium, 2008.
- **M3. J. Sreevalsan-Nair**, "Using Duality in Various Scientific Visualizations," May 2008, VDM Verlag Dr. Muller

Aktiengesellschaft & Co. KG Publishers (reprint of Ph.D. Dissertation).

- **M2.** 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.
- **M1. J. Sreevalsan-Nair**, C.S. Co, E. van Nieuwennhuyse, L. Linsen, and B. Hamann, "Visualization of Water Resource Data," Proceedings of UC Davis Student Workshop on Computing, University of California, Davis, 2003.

Invited Talks and Presentations

- 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.
- 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.
- 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.
- Talk presentation at IIIT Bangalore in the Samvaad series, "Using Spatial Locality for Visual Analytics," Bengaluru, Karnataka, India, April 30, 2018.
- Poster presentation of accepted paper at the 9th International Conference on Infromation Visualization Theory and Applications (IVAPP), "Design Study for Creating Pathfinder: A Visualization Tool for Generating Software Test Plans Using Model Based Testing," Madeiro, Portugal, January 27-29, 2018.
- Fast-forward and poster presentation of accepted paper at the 8th Workshop on Visual Analytics in Healthcare (VAHC 2017), Phoenix, Arizona, U.S.A., October 01, 2017.
- Oral presentation of accepted paper at the 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2017, Fortworth, Texas, U.S.A., July 28, 2017.
- 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.
- Talk on "Visual Analytics in the Time of Big Data," at the Big Data Workshop at IIIT Bangalore, India, April 19, 2017.
- Oral presentation of accepted paper at the 8th International Conference on Infromation Visualization Theory and Applications (IVAPP), "NodeTrix-CommunityHierarchy: Workflow for Finding Hierarchical Communities for Visual Analytics of Small-world Networks," Porto, Portugal, February 27-March 1, 2017.
- Poster presentation of accepted paper at the 5th International Conference on Complex Networks and their Applications, "NodeTrix-Multiplex: Visual Analytics of Multiplex Small World Networks," Milan, Italy, December 2016.
- Dagstuhl seminar on "Multidiscipinary 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". *(Upon invitation for a selected group of researchers in computer science).*
- Fast-forward and poster presentations of accepted paper at the ACM SIGSPATIAL 2015, Seattle, Washington, U.S.A., November 2015.
- Data Science & Big Data Analytics (DSBDA 2015), C-DAC Bangalore, August 2015 – "Focus+Context Techniques for Visualizing Big Data".
- 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".
- ACM-W India Celebrations of Women in Computing (AICWIC 2014), September 2014 – "Visualization: Above All Else Show the Data".
- Oral presentation of accepted paper at Big Data Analytics 2013, Mysore, India, December 2013.
- Visualization and Graphics Lab, Indian Institute of Science, July 2012 – "Isosurface Extraction from Hybrid Unstructured Grids Containing Pentahedral Elements".
- Oral presentation of accepted paper at IVAPP 2012, Italy, Rome, February 2012.
- Monsanto Research Center, Bangalore, February 2012 – "Applying Non-traditional Visualization Techniques for Bioinformatics Datasets".
- Oral presentation of accepted paper at VDA 2007, California, U.S.A, 2007
- Oral presentation of accepted paper at GRAPP 2006, Setúbal, Portugal, 2006
- Oral presentation of accepted paper at Lake Tahoe Workshop on Collaborative Virtual Reality and Visualization,

California, U.S.A., 2003
- Project presentation at EVITA Annual Symposium 2002, Ohio, U.S.A., 2002
- Project presentation at EVITA Annual Symposium 2001, Mississippi, U.S.A., 2001

Teaching

[**] designed and delivered the course; [*] designed and delivered guest lectures; [#] undergraduate course;
[+] course offered to multiple classes during a semester – M.Tech., sponsored M.Tech.

Teaching at IIITB

01/2019 **CS832/DS832**, Advanced Data Visualization
01/2019 **CS606**, Computer Graphics
08/2018 **ESS102**, Programming II (Lecture and Lab - Module on C++) [#]
08/2018 **DT107**, Application Development for a Connected Society
08/2018 **CS732/DS732**, Data Visualization
01/2018 **CS714**, Advanced Computer Graphics
08/2017 **CS732/DS732**, Data Visualization
08/2017 **ESS102**, Programming II (Lecture and Lab - Module on C++) [#]
08/2017 **CS304**, Foundations of Computer Graphics [#]
01/2017 **CS606**, Introduction to Computer Graphics [+]
08/2016 **CS709**, Geometric Modeling [*]
08/2016 **CS856**, Advanced Computer Graphics
08/2016 **CS713/DS713**, Data Visualization
01/2016 **CS606/DS606**, Introduction to Computer Graphics
01/2016 **GEN601**, Scientific Computing I [**]
08/2015 **CS713/DS713**, Data Visualization
01/2015 **CS606/DS606**, Introduction to Computer Graphics
01/2015 **GEN601**, Introduction to Scientific Computing
08/2014 **CS713/DS713**, Data Visualization [**]
08/2014 **CS856**, Advanced Computer Graphics [**]
08/2014 **CC109-Lab**, Operating Systems Lab [#]
01/2014 **CS606/DS606**, Introduction to Computer Graphics
01/2014 **GEN601**, Introduction to Scientific Computing [**]
08/2013 **CS606/DS606**, Introduction to Computer Graphics
01/2012 **CS110**, Operating Systems
08/2011 **CS606/DS606**, Introduction to Computer Graphics
07/2011 **PS102**, Probability & Statistics
01/2011 **CS110**, Operating Systems
08/2010 **CS606/DS606**, Introduction to Computer Graphics [**]
07/2010 **PS102**, Probability & Statistics

Miscellaneous

01/2019 **PGDB105B – Healthcare Informatics**, Instructor for IBAB-IIITB Joint Programme of Post Graduate Diploma in Big Data in Biology
07/2011 **Introduction to Information Visualization**, Guest Instructor at National Institute of Design, Bangalore (by invitation)
01/2006 **Discrete Mathematics & Its Applications** [#], Teaching Assistant at Dept. of Computer Science, University of California, Davis
04/2005 **Introduction to Computer Graphics** [#], Teaching Assistant at Dept. of Computer Science, University of California, Davis

Training Sessions

12/2010 **Computer Graphics: Theory & Practice**, Industrial training at LG India Pvt. Ltd.
10/2008 **Introduction to Scientific Visualization**, Training at Texas Advanced Computing Center

Mentoring/ Advising

Advisor for Masters and Doctoral Students

IIITB	**Ms. Ankita Christine Victor**, Master of Technology	*2018-*
IIITB	**Mr. Dattanand Arun Raykar**, Sponsored Master of Technology (with Samsung India Pvt. Ltd.)	*2018-*
IIITB	**Ms. Harshitha Ravindra**, Doctor of Philosophy	*2018-*
IIITB	**Mr. Amit Tomar**, Doctor of Philosophy	*2018-*
IIITB	**Ms. Pragyan Mohapatra**, Master of Science by Research	*2018-*
IIITB	**Ms. Komal Dadhich**, Master of Science by Research	*2018-*
IIITB	**Ms. Shivangi Motwani**, Master of Science by Research	*2018-*
IIITB	**Mr. Satendra Singh**, Master of Science by Research	*2017-*
IIITB	**Ms. Rani Reddy V.**, Doctor of Philosophy	*2016-*
IIITB	**Mr. Joy Prabhakaran**, Doctor of Philosophy *(co-supervisor since 2015)*,	*2012-18*
IIITB	**Mr. Kishor Gandhi**, Sponsored Master of Technology (with Samsung India Pvt. Ltd.)	*2015-17*
IIITB	**Mr. Siba Prasad Samal**, Sponsored Master of Technology (with Samsung India Pvt. Ltd.)	*2015-17*
IIITB	**Mr. Raghavan Vellappan**, Sponsored Master of Technology (with Samsung India Pvt. Ltd.)	*2015-17*
Goa Univ.	**Ms. Anuja Pinge**, Master of Technology	*2014-15*
IIITB	**Mr. Amit Tomar**, Master of Technology	*2014-15*
IIITB	**Mr. Shivam Agarwal**, Master of Technology	*2014-15*
IIITB	**Ms. Beena Kumari**, Master of Science by Research	*2013-16*
IIITB	**Ms. Saima Parveen**, Master of Science by Research	*2011-13*

Supervisor and Mentor for Staff Members of Research Projects

IIITB	**Ms. Harshitha Ravindra**, EHRC	*Aug 2018 -*
IIITB	**Mr. Bhargav Ram K. S.**, IBM	*Jul 2018 -*
IIITB	**Ms. Minerva Panda**, IBM	*Jul 2018*
IIITB	**Ms. Shivangi Motwani**, SERB	*Jan 2018 -*
IIITB	**Ms. Kuhu Gupta**, FRHS	*Jul 2017 - May 2018*
IIITB	**Mr. Nilay Engineer**, INCOIS	*Jul 2016 - Jun 2017*
IIITB	**Mr. Shivam Agarwal**, INCOIS	*Jul 2015 - Jun 2017*
IIITB	**Mr. Raghavendra G. S.** , INCOIS	*Jul 2015 - Jul 2016*
IIITB	**Ms. Beena Kumari**, NRDMS, EMC^2, FRHS	*Apr 2013 - May 2016*
IIITB	**Mr. Avijit Ashe**, NRDMS	*Jan 2014 - Feb 2015*
IIITB	**Ms. Pavithra Rajendran**, NRDMS	*Nov 2013 - Apr 2014*
IIITB	**Dr. Kiruba Bagirathi**, NRDMS	*Aug 2012 - Aug 2013*

Post-doctoral Researchers

IIITB	**Dr. Kiruba Bagirathi**, Doctor of Philosophy (Mathematics)	*2014-16*

Interns

IIITB	**Mr. Tarun Kukreja**, Bachelor of Technology, CSE (Year 3), MSIT (GGSIPU) New Delhi	*07/2018*
IIITB	**Mr. Chatti Bhanu Venkata Sai Phani**, Bachelor of Technology, CSE (Year 3), IIIT Vadodara	*05/2018*
IIITB	**Ms. Minerva Panda**, Bachelor of Technology, CSE (Year 4), IIIT Bhubaneshwar	*01/2018*
IIITB	**Mr. Ekansh Garg**, Dual Degree, Civil Engg. (Year 4), IIT Madras, Chennai	*12/2017*
IIITB	**Ms. Harini V.**, Bachelor of Technology, CSE (Year 1), RVCE, Bangalore	*06/2017*
IIITB	**Ms. Minerva Panda**, Bachelor of Technology, CSE (Year 3), IIIT Bhubaneswar	*05/2017*
IIITB	**Ms. Khushboo Bhuwalka**, Bachelor of Engineering, IT (Year 3), NIT Raipur	*05/2016*
IIITB	**Mr. Sunit Adhikary**, Bachelor of Engineering, CSE (Year 2), IIIT Guwahati	*05/2016*
IIITB	**Mr. Dinesh Prashanth**, Bachelor of Engineering, CSE (Year 2), NIT Trichy	*05/2011*
IIITB	**Ms. Jai Brahmakshatriya**, Bachelor of Engineering, IT (Year 2), NIT Suratkal	*05/2011*
IIITB	**Mr. Abhinit Modi**, Bachelor of Engineering, Computer Engg. (Year 2), NIT Suratkal	*05/2011*

Miscelleaneous

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

Professional Activities at IIITB

Research

- Core committee member for E-Health Research Center at IIITB (2016-).
- Planning Committee Chairperson of the E-Health Research Center at IIITB (2015).
- Chairperson of the e-health Committee at IIITB (2014-15).
- Founding Member of Center for Data Sciences, IIITB (2014-).
- Founder & Head of Graphics-Visualization-Computing-Lab, IIITB (2012-).
- Steering Committee Member for IIITB Mediacenter (2011-12).

Academic Administration

- Convener for Senate sub-committee for Post Graduate Diploma Course on Big Data in Biology, joint program with IBAB (2018-).
- Research Domain Representative (Data Science), Research Execomm Member (2017-).
- Faculty-in-charge of monthly IIITB newsletter (2014-).
- 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-).

Professional Service and Leadership Activities

Conferences/Journals

- Program Committee Member: Eurovis Short Papers [2013,2018,2019], ISVC [2018], HiPC Student Research Symposium [2017,2018], AICWIC 2013, ICFOCS 2011.
- Conference Reviewer [Visualization conferences] (2010-):Eurovis [2014, 2015, 2016, 2018,2019], VizSec [2018], ISVC [2018], ICVGIP [2014, 2016, 2018], IEEE VAST Challenge [2010, 2011, 2017, 2018], IEEE Infovis [2013, 2014, 2015, 2017], IEEE VAST [2013, 2014, 2015, 2017], IEEE Vis/SciVis [2011, 2013, 2015, 2017], EuroRV3 2017, Eurovis Short Papers [2016, 2017], IEEE Visualization VIP 2016, PacificVis Notes 2016, IEEE Visualization Posters [2010, 2011], PacificVis [2011, 2014, 2015, 2018]
- Conference Reviewer [others] (2011-): INDICON 2016, ISEC 2016, ADCOM 2016, COMAD 2016, CONECCT 2015, BDA 2013, ICDCIT 2012, ICFOCS 2011, DNIS 2011
- Journal Reviewer: Sadhna, JSTARS (IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing) [2018], TGRS (IEEE Transactions on Geoscience and Remote Sensing) [2018], TCSVT (IEEE Transactions on Circuits and Systems for Video Technology) [2018], TVCG (IEEE Transactions on Visualization and Computer Graphics) [2013, 2014, 2015, 2017, 2018], CGF (Computer Graphics Forum) [2013].
- Proposal Reviewer: NRDMS (Natural Resources Data Management System) programme of Department of Science and Technology (Government of India) [2016, 2017, 2018]; BRFST [2015]; CEFIPRA [2012].
- Co-chair for ACM Siggraph (Bangalore chapter) 2013-14.
- Academic/Research Committee Member: Grace Hopper Conference India (GHCI) 2011.
- Program Co-chair: ACM Siggraph (Bangalore chapter) Elements 2011.
- Session Chair: IVAPP 2018, IGARSS 2017, BDA 2013, ICFOCS 2011, GRAPP 2006.
- Organizing Committee: GHCI 2011.

- Moderator for panel discussion on “Teaching as a Rewarding Career”, GHCI 2011.

Professional Society Memberships

- IEEE Senior Member, ACM Associate Member.

National-level Contributions As Technical Expert

- Invited member for brain-storming session on “Spatial Data Infrastructures for Smart City Development” by Department of Science and Technology, Government of India – Sep 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.

Academic Administration

- External examination question paper setter for course 18CSE104 – Big Data Analytics, at Nitte Meenakshi Institute of Technology in 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.
- 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.

Consultant Activities

- Mentor faculty for Hyperreality Technologies, IIIT-B Innovation Center (August 2018 -)
- Consultant to Altair India Pvt. Ltd. (January 2016 - May 2016)
- Advisory Board Member for EurekaZing Inc. (2010-12)