Curriculum Vitae

DR. VARUN NARAYAN MISHRA
Contact: +91-9919415817; 8318701736
E-mail: varun9686@gmail.com; vnmishra@amity.edu
Current Location: Noida, UP, India
Area of specialization: Geoinformatics in SDGs, Land change simulation and modeling, urban climate, Radar remote sensing, AI/ML

Personal Skills:
Comprehensive problem-solving abilities, good verbal and written communication skills, Willingness to learn and work

Objectives:
To be a part of a professional and dynamic organization wherein individual growth is viewed through the growth of the organization and to work in a challenging environment, which constantly enhances my skills and supports my career growth.

Educational Qualifications:
- Ph.D. from Department of Physics, Indian Institute of Technology (BHU), Varanasi in year 2018 with CGPA 9.50.
  Title of the thesis: "*Mining Land Use/Land Cover Information and Changing Landscape Pattern Analysis Using Remote Sensing Aided Machine Learning Techniques*"
- M.Tech. in Remote Sensing from Department of Remote Sensing, Birla Institute of Technology Mesra, Ranchi in year 2011 with first division with distinction; CGPA 8.73(~87.30%).
- One Year P.G. Diploma in Remote Sensing & GIS from Department of Geography, Institute of Science, Banaras Hindu University, Varanasi in year 2009 with first division with distinction; CGPA 8.60 (~86.00%).
- M.Sc. in Physics from V.B.S. Purvanchal University, Jaunpur (UP) in year 2007 with first division; 62.75%.
- B.Sc. in Maths and Physics from V.B.S. Purvanchal University, Jaunpur (UP) in year 2005 with first division; 67.77%.
- Intermediate (10+2) from U.P. Board, Allahabad in year 2002 with first division; 64.00%.
- High School (10th) from U.P. Board, Allahabad in year 2000 with first division; 64.10%.

Research Interests:
- SAR image processing and analysis for various applications, machine learning techniques, deep learning, optical and SAR data fusion, land use/land cover classification, land change analysis, simulation & modeling, urban climate, crop mapping and growth monitoring, glacier mapping & monitoring

Software Proficiency:
- ERDAS Imagine, ENVI, SARscap, ArcGIS, IDRISI Selva, SAGA (open source), ILWIS (open source), multi-spec (open source), SNAP toolbox for SAR data processing and analysis (open source), R programming language

Working/Teaching Experience:
- Currently working as an Assistant Professor-II at *Amity Institute of Geoinformatics and Remote Sensing (AIGIRS)*, Amity University, Noida, Uttar Pradesh. (04 August 2022 to till date)
- Worked as an Assistant Professor at *Centre for Climate Change and Water Research* (C3WR), Suresh Gyan Vihar University, Jaipur, Rajasthan. (February 2019 to July 2022)
- Delivered lectures to the students of *PG Diploma in Remote Sensing and GIS* course at Department of Geography, Institute of Science, Banaras Hindu University on the topics of microwave remote sensing, digital image processing techniques and land change modelling. I also trained them in ERDAS Imagine, ENVI and IDRISI softwares.
- Worked as Teaching Assistant (TA) during PhD at IIT (BHU), Varanasi funded by MHRD, New Delhi.
- Worked as Junior Research Fellow at *Centre for the Study of Regional Development (CSRD), School of Social Sciences,* Jawaharlal Nehru University, New Delhi under DST funded research project entitled *"Snow Spectral Properties and Regional Climate"* from 29 April 2012 to 30 April 2013.
- Worked as Sr. GIS Engineer in SGIS Pvt. Ltd. Varanasi from 1 July 2011 to 25 February 2012.

Administrative Responsibilities:
- Member of the proctor committee (02 October 2021 to 15 July 2022)
- Master of Ashfaqullah hostel under collegiate system of SGVU (31 August 2019 to 15 July 2022)
- Fellow of Surya Sen hostel under collegiate system of SGVU (22 February 2019 to 30 August 2019)
- Member of Departmental Research committee (DRC), C3WR, SGVU
- Member of Research Advisory Committee (RAC), C3WR, SGVU
- Member of Board of Studies (BOS) of C3WR
- Member of university research committee of SGVU
- Examination Coordinator of C3WR
- Member of the interview pannel for Ph.D. entrance examination of C3WR

List of Research Publications:
1. Nanabhau S. Kudnar, P. Diwate, **V. N. Mishra**, P. K. Srivastava, A. Kumar, M. Pandey (2022) Spatio-temporal variability and trend analysis of rainfall in Wainganga River basin, Central India and prediction using state space models. *Theoretical and Applied Climatology*. DOI: 10.1007/s00704-022-04168-4
2. S. Verma, S. Kumar, **V. N. Mishra**, R. Raj (2022) Multifrequency Spaceborne SAR data for Backscatter-based Characterization of Land Use and Land Cover. *Frontiers in Earth Science*, 10:825255. doi: 10.3389/feart.2022.825255
3. A. Kakkar, P. K. Rai, **V. N. Mishra**, P. Singh (2022) Decadal trend analysis of rainfall patterns of past 115 years & its impact on Sikkim, India. *Remote Sensing Applications: Society and Environment*, 26
4. A. Debnath, R. Kumar, S. Mukherjee, **V. N. Mishra**, K. Gupta, K. Kumar, V.S. Arya (2022) Climatology and spatio-temporal analysis of air pollution distribution in megacity of Delhi and its surrounding states. *Atmospheric Pollution Research* (Under Review)
5. B. Sajan and **V. N. Mishra** (2022) Comparison of satellite image-based vegetation indices for extraction and mapping of litchi (*Litchi Chinensis*) cultivation area in Muzaffarpur district, Bihar, India. *ADBU Journal of Engineering Technology*, 11(1): 011010003(11PP).

6. S. Kaushik, **V. N. Mishra**, M. Punia, P. Diwate, T. Sivasankar, A. K. Soni (2021) Crop health assessment using Sentinel-1 SAR time series data in a part of central India. *Remote Sensing in Earth Systems Sciences*, 4(4): 217-234.

7. M. Pandey, A. Arora, A. Arabameri, R. Costache, N. Kumar, **V. N. Mishra**, H. Nguyen, J. Mishra, M.A. Siddiqui, Y. Ray, S. Soni and U.K. Shukla (2021) Flood Susceptibility Modeling in a Subtropical Humid Low-Relief Alluvial Plain Environment: Application of Novel Ensemble Machine Learning Approach. *Frontiers in Earth Science*, 9:659296. DOI: 10.3389/feart.2021.659296

8. A. K. Vishwakarma, **V. N. Mishra**, R. Rai, B. K. Shrivastva (2021) Quantitative assessment of the effect of mining subsidence on the health of native floras using remote sensing techniques. *Results in Geophysical Sciences*, 8, 100031.

9. G. S. Prajapati, P. K. Rai, **V. N. Mishra**, P. Singh, A. P. Shahi (2021) Remote sensing-based assessment of waterlogging and soil salinity: a case study from Kerala, India. *Results in Geophysical Sciences*, 7, 100024.

10. R. Kumar, A. Rai, **V. N. Mishra**, P. Diwate, V. S. Arya (2021) Performance evaluation of supervised classifiers for land use and land cover mapping using Sentinel-2 MSI image. *Journal of Geosciences Research*, 6(2): 231-241.

11. A. Arora, M. Pandey, **V. N. Mishra**, R. Kumar, P. K. Rai, R. Costache, M. Punia, L. Di (2021) Comparative evaluation of Geospatial scenario-based land change simulation models using landscape metrics. *Ecological Indicators*, 128, 107810.

12. **V. N. Mishra**, V. Kumar, R. Prasad, M. Punia (2021) Geographically weighted method integrated with logistic regression for analyzing spatially varying accuracy measures of remote sensing image classification. *Journal of the Indian Society of Remote Sensing*, 49(5):1189-1199.

13. A. Arora, A. Arabameri, M. Pandey, M. A. Siddiqui, U.K. Shukla, D. T. Bui, **V. N. Mishra**, A. Bhardwaj (2021) Optimization of state-of-the-art fuzzy-metaheuristic ANFIS based machine learning models for flood susceptibility prediction mapping in the Middle Ganga Plain, India. *Science of the Total Environment*, 750, 141565.

14. A. Arora, M. Pandey, M. A. Siddiqui, H. Hong, **V. N. Mishra** (2021) Spatial flood susceptibility prediction in Middle Ganga Plain: Comparison of frequency ratio and Shannon's Entropy models. *Geocarto International,* 36(18): 2085-2116.

15. A. Singh, **V. N. Mishra** (2020) Estimation of changes in land surface temperature using multi-temporal Landsat data of Ghaziabad District, India. *Forum geographic*, 19(1): 45-59.

16. M. M. Nistor, P. K. Rai, I. A. Carebia, P. Singh, A. P. Shahi, **V. N. Mishra** (2020) Comparison of the effectiveness of two Budyko-based methods for actual evapotranspiration in Uttar Pradesh state, India. *Geographia Technica*, 15(1): 1-15.

17. M. M. Nistor, V. Dugesar, P.K. Rai, **V.N. Mishra**, P. Singh, A. Arora, V.K. Kumra, I.A. Carebia (2019) Climate change effect on water resources in the Varanasi district, India. *Meteorological Applications*, e1863. DOI: 10.1002/met.1863

18. S. Sharma, S. K. Singh, **V. N. Mishra** (2019) GIS based mapping of optical fibre cable in a part of Alwar district, Rajasthan, India. *International Journal of Recent Technology and Engineering*, 8(2): 2041-2045.

19. P.K. Rai, P. Singh, **V.N. Mishra**, A. Singh, B. Sajan, A. P. Shahi (2019) Geospatial Approach for quantitative drainage morphometric analysis of Varuna River basin, India. *Journal of Landscape Ecology*, 12(2): 1-25.

20. **V. N. Mishra**, R. Prasad, P.K. Rai, A. K. Vishwakarma, A. Arora (2019) Performance evaluation of textural features in improving land use/land cover classification accuracy of heterogeneous landscape using multi-sensor remote sensing data. *Earth Science Informatics*, 12(1): 71-86.

21. M. L. G. Guidigan, C. L. Sanou, D. S. Ragatoa, C. O. Fafa, **V. N. Mishra** (2019) Assessing land use/land cover dynamic and its impact in Benin Republic using land change model and CCI-LC products. *Earth Systems and Environment*, 3(1): 127-137.

22. **V.N. Mishra**, R. Prasad, P. Kumar, D.K. Gupta, S. Agarwal, A. Gangwal (2019) Assessment of spatio-temporal changes in land use/land cover over a decade (2000-2014) using earth observation datasets: a case study of Varanasi district, India. *Iranian Journal of Science and Technology, Transactions of Civil Engineering*, 43(1): S383-S401.

23. **V.N. Mishra**, P.K. Rai, R. Prasad, M. Punia, M.M. Nistor (2018) Prediction of spatio-temporal land use/land cover dynamics in rapidly developing Varanasi district of Uttar Pradesh, India using Geospatial approach: A comparison of hybrid models. *Applied Geomatics,* 10(3): 257-276.

24. P.K. Rai, **V.N. Mishra**, K.N.P. Raju (2018) Methodology and Applications of Remote Sensing and GIS in Environmental Mapping and Monitoring. *National Geographical Journal of India*. 64(1-2): 266-276.

25. A. K. Vishwakarma, R. Prasad, D.K. Gupta, P. Kumar, **V.N. Mishra** (2018) Ground based bistatic scatterometer measurement for the estimation of growth variables of ladyfinger crop at X-band. *Journal of the Indian Society of Remote Sensing*, 46(6): 973-980.

26. P. Kumar, R. Prasad, A. Choudhary, D.K. Gupta, **V.N. Mishra**, A.K. Vishwakarma, A. K. Singh, P. K. Srivastava (2019) Comprehensive evaluation of soil moisture retrieval models under different crop cover types using C-band synthetic aperture radar data. *Geocarto International*. 34(9): 1022-1041.

27. P.K. Rai, R.S. Chandel, **V.N. Mishra**, P. Singh (2018) Hydrological inferences through morphometric analysis of lower kosi river basin of India for water resource management based on remote sensing data. *Applied Water Science*, 8(1): 15.

28. P. Kumar, R. Prasad, D.K. Gupta, **V.N. Mishra**, A.K. Vishwakarma, V.P. Yadav, R. Bala, A. Choudhary, R. Avtar (2018) Estimation of winter wheat crop growth parameters using time series Sentinel-1A SAR data. *Geocarto International*, 33(9): 942-956.

29. S.K. Kaushik, **V.N. Mishra**, M. Punia (2017) Snow grain size mapping using EO-1 Hyperion imagery in the Himalayan region, India. *Bulletin of Environmental and Scientific Research*, 6 (3-4): 14-19.

30. **V.N. Mishra**, R. Prasad, P. Kumar, P.K. Srivastava, P.K. Rai (2017) Knowledge-based decision tree approach for mapping spatial distribution of rice crop using C-band synthetic aperture radar-derived information. *Journal of Applied Remote Sensing*, 11(4): 046003.

31. P.K. Rai, **V.N. Mishra**, K. Mohan (2017) A study of morphometric evaluation of the son basin, India using geospatial approach. *Remote Sensing Applications: Society and Environment*, 7: 9-20.

32. P.K. Rai and **V.N. Mishra** (2017) Changes of glacier lakes using multi-temporal remote sensing data. *Geographica Pannonica*, 21(3): 132-141.

33. P.K. Rai, **V.N. Mishra**, S. Singh, R. Prasad, M.S. Nathawat (2017) Remote sensing-based study for evaluating the changes in glacial area: A case study from Himachal Pradesh, India. *Earth Systems and Environment*, 1(1):1-13.

34. **V.N. Mishra**, R. Prasad, P. Kumar, D.K. Gupta, P.K. Srivastava (2017) Dual-polarimetric C-band SAR data for land use/land cover classification by incorporating textural information. *Environmental Earth Sciences*, 76(1): 26.

35. P. Kumar, R. Prasad, A. Choudhary, **V.N. Mishra**, D.K. Gupta, P.K. Srivastava (2017) A statistical significance of differences in classification accuracy of crop types using different classification algorithms. *Geocarto International*, 32(2): 206-224.

36. P.K. Rai, K. Mohan, S. Mishra, A. Ahmad, **V.N. Mishra** (2017) A GIS-based approach in drainage morphometric analysis of Kanhar River Basin, India. *Applied Water* Science, 7(1): 217-232.

37. **V.N. Mishra**, P.K. Rai, P. Kumar, R. Prasad (2016) Evaluation of land use/land cover classification accuracy using multi-resolution remote sensing images. *Forum Geografic*, 15 (1): 45-53.

38. P. Kumar, R. Prasad, D.K. Gupta, **V.N. Mishra**, S.K. Singh (2016) Artificial neural network for crop classification using C-band RISAT-1 satellite datasets. *Russian Agricultural Sciences*, 42(3-4): 281-284.

39. **V.N. Mishra** and P.K. Rai (2016) A remote sensing aided multi-layer perceptron-Markov chain analysis for land use and land cover change prediction in Patna district (Bihar), India. *Arabian Journal of Geosciences*, 9(4): 249.

40. D.K. Gupta, R. Prasad, P. Kumar, **V.N. Mishra** (2016) Estimation of crop variables using bistatic scatterometer data and artificial, neural network trained by empirical models. *Computers and Electronics in Agriculture*, 123: 64-73.

41. P.K. Rai, K. Mohan, **V.N. Mishra**, M. Bishwari, A. Sharma, S. Rai (2016) Changing regimes of Gangotri and surrounding glaciers: a case study of Garhwal Himalaya, India. *Remote Sensing Applications: Society and Environment*, 3(1): 53-72.

42. P. Kumar, R. Prasad, D.K. Gupta, **V.N. Mishra**, A. Choudhary (2015) Support vector machine for classification of various crop using high resolution LISS-IV imagery. *Bulletin of Environmental and Scientific Research*, 4: 1-5.

43. D.K. Gupta, R. Prasad, P. Kumar, **V.N. Mishra**, A.K. Vishwakarma, P.K. Srivastava (2015) Support vector regression for retrieval of soil moisture using bistatic scatterometer data at X-band. *International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering*, 9(10): 950-953.

44. P. Kumar, D.K. Gupta, **V.N. Mishra**, R. Prasad (2015) Comparison of support vector machine, artificial neural network, and spectral angle mapper algorithms for crop classification using LISS IV data. *International Journal of Remote Sensing*, 36(6): 1604-1617.

45. D.K. Gupta, P. Kumar, **V.N. Mishra**, R. Prasad, P.K.S. Dikshit, S.B. Dwivedi, A. Ohri, R.S. Singh, V. Srivastava (2015) Bistatic measurements for the estimation of rice crop variables using artificial neural network. *Advances in Space Research*, 55(6): 1613–1623.

46. **V.N. Mishra** and P.K. Rai (2014) Surface generation through Geostatistical technique (kriging), *Journal of Scientific Research BHU Varanasi*, 59(1 & 2):17-30.

47. **V.N. Mishra**, P.K. Rai, K. Mohan (2014) Prediction of Land Use Changes Based on Land Change Modeler (LCM) Using Remote Sensing: A Case Study of Muzaffarpur (Bihar), India. *Journal of the Geographical Institute, Jovan Cvijić SASA*, 64(1): 111-127.

Books (authored/edited) published:

1. P. K. Rai, **V. N. Mishra**, P. Singh **(Editors)** (2022) Geospatial Technology for Landscape and Environmental Management- Sustainable Assessment & Planning. *Springer International Publishing*. eBook ISBN: 978-981-16-7373-3. https://doi.org/10.1007/978-981-16-7373-3

2. **V. N. Mishra**, P. K. Rai, P. Singh **(Editors)** (2021) Geo-information Technology in Earth Resources Monitoring and Management. *Nova Science Publishers*, USA. ISBN: 978-1-53619-796-9 (eBook).

3. P. K. Rai, P. Singh, **V. N. Mishra (Editors)** (2021) Recent Technologies for Disaster Management and Risk Reduction- Sustainable Community Resilience & Responses. *Springer International Publishing*. ISBN: 978-3-030-76116-5. https://doi.org/10.1007/978-3-030-76116-5

4. S. Kanga, **V.N. Mishra,** S. K. Singh **(Editors)** (2020) Sustainable development practices using Geoinformatics. *Scrivener Publishing with Wiley.* ISBN:9781119687160; DOI:10.1002/9781119687160

5. S. K. Singh, S. Kanga, **V.N. Mishra (Editors)** (2020) Spatial Information Science for Natural Resource Management. *IGI Global*. ISBN: 9781799850274; DOI: 10.4018/978-1-7998-5027-4

6. **V. N. Mishra**, M.S. Nathawat, Sneh mani (2019) Snow Cover Area Mapping Using Multi-Sensor Satellite Data. *Lambert Academic Publishing*. ISBN: 978-620-0-32597-6.

7. S. K Singh, S. Kanga, **V.N. Mishra** (2019) Geoinformatics for Sustainable Management of Solid Waste. *Scholars' Press*. ISBN: 978-613-8-91074-9. 978-981-16-7372-6

Book chapters published:

1. **V. N. Mishra** (2022). Investigation of land use/land cover changes in Alaknanda River Basin, Himalaya during 1976 – 2020. In book *Advances in Remote Sensing and the "Three Poles"* (Editors Manish Pandey, Prem C. Pandey, Shridhar D. Jawak, Aman Arora, Yogesh Ray, and Uma Kant Shukla) Wiley.

2. **V. N. Mishra**, R. Prasad, P. K. Rai, M. M. Nistor, P. Singh (2022). Using remote sensing technique to investigate land use/ land cover changes in Varanasi District (U.P.), India. In book *Remote Sensing and Geographic Information Systems for Policy Decision Support* (Editors R. B. Singh, Manish Kumar, D.K. Tripathi) Springer. ISBN: 978-981-16-7731-1

3. **V.N. Mishra** and T. Sivasankar (2022). Evaluation of speckle filtering methods using polarimetric Sentinel-1A data. In book *Radar Remote Sensing: Applications and Challenges* (Editors P. K. Srivastava, D. K. Gupta, R. Prasad et al.) Elsevier. ISBN: 9780128234570

4. P. S. Wale, T. Sivasankar, **V. N. Mishra**, R. Sanyal (2022). Flood inundation mapping from SAR and optical data using support vector machine: a case study from Kopili river basin during Amphan cyclone. In book *Radar Remote Sensing: Applications and Challenges* (Editors P. K. Srivastava, D. K. Gupta, R. Prasad et al.) Elsevier. ISBN: 9780128234570

5. A. Kumari, P. K. Rai, **V. N. Mishra**, P. Singh, A. Mehra (2022) Remote sensing-based study of landslide hazard zonation in Namchi and its surrounding area of Sikkim, India. In book Atmospheric Remote Sensing (Editors S. Kumar, A. K. Singh) Elsevier.

6. A. P. Shahi, P. K. Rai, Rabi-ul-Islam, **V. N. Mishra** (2022) Remote Sensing Data Extraction and Inversion Techniques: A review. In book Atmospheric Remote Sensing (Editors S. Kumar, A. K. Singh) Elsevier.

7. A. K. Vishwakarma, **V. N. Mishra**, S. Kanga (2021). Remote sensing-based assessment of mining induced subsidence impact on native vegetation. pp. 409-420 in book *Perspectives in Natural Resources Management: Watershed-based Approach* (Editors R.K. Goyal and Mahesh. K. Gaur) Central West Publishing, Australia. ISBN: 978-1-925823-94-3

Papers/Abstracts in Conferences/Seminars/Symposia:

1. B. Sajan and **V. N. Mishra** (2022) Comparison of satellite image-based vegetation indices for extraction and mapping of litchi (Litchi Chinensis) cultivation area in Muzaffarpur district, Bihar, India. First international conference **NUclearCSE-2022** organized by NIIT University, Neemrana, Rajasthan during 20-22 January 2022.

2. **V.N. Mishra**, P.K. Rai, R. Prasad (2018) Enhanced land use/land cover classification performance using textural information. National seminar on *Perspectives on Land, Water and Population: Issues and Challenges (PLWPIC-2018)* organized by Department of Geography, Institute of Science, Banaras Hindu University, Varanasi during 26-28 March, 2018.

3. **V.N. Mishra**, P. K. Rai, R. Prasad, M. Punia, M. M. Nistor (2018) Modeling based study of spatio-temporal dynamics of land use and land cover in rapidly developing Varanasi district

(India) using remote sensing. Practical Geography and XXI Century Challenges organized by Institute of Geography of the Russian Academy of Sciences, Moscow.

4. J. Sharma, R. Prasad, **V. N. Mishra**, V. P. Yadav, R. Bala (2018) Land use and land cover classification of multispectral landsat-8 satellite imagery using discrete wavelet transform. *ISPRS TC V Mid-term Symposium on Geospatial Technology-Pixel to People* during 20-23 November 2018, Dehradun, India and full paper published in International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XLII-5, pp. 703-706. https://doi.org/10.5194/isprs-archives-XLII-5-703-2018.

5. A. K. Vishwakarma, R. Prasad, D. K. Gupta, P. Kumar, **V. N. Mishra** (2018). Ground based bistatic scatterometer measurement of rice crop at C-band in the specular direction. 3rd International Conference on Microwave and Photonics (ICMAP- 2018) organized by Department of Electronics Engineering, ISM (IIT), Dhanbad during 09-11 February, 2018. DOI: 10.1109/ICMAP.2018.8354491

6. **V.N. Mishra** (2018) Modeling of spatio-temporal land use/land cover dynamics in Varanasi district, India. *5th Annual International conference on Challenges and Solutions for a Sustainable Environment* organized by Centre for Climate Change and Water Research, SGVU, Jaipur during 09-11 February, 2018.

7. P.K Rai, **V.N. Mishra**, A. Singh et al. (2018) Inventory and retreat of glaciers of Garhwal Himalayan area using remote sensing data. *5th Annual International conference on Challenges and Solutions for a Sustainable Environment* organized by Centre for Climate Change and Water Research, SGVU, Jaipur during 09-11 February, 2018.

8. **V.N. Mishra**, R. Prasad, P. Kumar, D.K. Gupta, P.K. Rai (2016) A remote sensing-based study for analyzing land use/land cover changes in Varanasi district, India. *National Conference on Advancements in applications of remote sensing and geospatial technology (AARSGT-2016)*, organized by Department of Remote Sensing, Birla Institute of Technology Mesra, Ranchi, during May 19-21 May, 2016.

9. **V.N. Mishra**, R. Prasad, P. Kumar, D.K. Gupta, A.K. Viswakarma (2016) Analysis of land use and land cover changes using multi-temporal Landsat images. *National Conference on Managing Soil Resource for Environmental Sustainability: Challenges & Perspectives (MSRES-2016)* organized by Institute of Environment and Sustainable Development, Banaras Hindu University, Varanasi during 9-10 December, 2016.

10. **V.N. Mishra**, R. Prasad, P. Kumar, D.K. Gupta, P.K.S. Dikshit, S.B. Dwivedi, R.S. Singh, V. Srivastava (2015) Supervised algorithms for classification of remotely sensed satellite image using open source support. *National Conference on Open Source GIS: Opportunities and Challenges (OSGIS-2015)* organized by Department of Civil Engineering, IIT (BHU), Varanasi during October 9-10, 2015 and paper published in Proceedings (ISBN: 978-81-931-2500-7).

11. **V.N. Mishra**, R. Prasad, P. Kumar, D.K. Gupta, P.K.S. Dikshit, S.B. Dwivedi, A. Ohri (2015) Evaluating the effects of spatial resolution on land use and land cover classification accuracy. *International Conference on Microwave, Optical and Communication Engineering (ICMOCE-2015)* organized by School of Electrical Sciences, IIT Bhubaneswar, Odisha, India during 18-20 December, 2015 and paper published in IEEE xplore digital library. DOI: 10.1109/ICMOCE.2015.7489727.

12. P. Kumar, R. Prasad, **V.N. Mishra**, D. K. Gupta, A. Choudhary, P. K. Srivastava Artificial neural network with different learning parameters for crop classification using multispectral datasets. *International Conference on Microwave, Optical and Communication Engineering (ICMOCE-2015)* organized by School of Electrical Sciences, IIT Bhubaneswar, Odisha, India during 18-20 December, 2015 and paper published in IEEE xplore digital library. DOI: 10.1109/ICMOCE.2015.7489726

13. D. K. Gupta, R. Prasad, P. Kumar, **V.N. Mishra**, A. K. Vishwakarma, R. S. Singh, V. Srivastava (2015) Spatial modeling of SPAD values for different type of crops using LISS-IV satellite imagery. *International Conference on Microwave, Optical and Communication Engineering (ICMOCE-2015)* organized by School of Electrical Sciences, IIT Bhubaneswar, Odisha, India during 18-20 December, 2015 and paper published in IEEE xplore digital library. DOI: 10.1109/ICMOCE.2015.7489728

14. **V.N Mishra**, P. Kumar, D.K. Gupta, R. Prasad (2014) Classification of various land features using RISAT-1 dual polarimetric data. *ISPRS TC VIII Mid-Term Symposium on Operational RS Applications: opportunities, progress and challenges* during 09-12 December, 2014 at Hyderabad, India and full paper published in International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-8, pp. 833-837. DOI: 10.5194/isprsarchives-XL-8-833-2014.

15. D.K Gupta, P. Kumar, **V.N. Mishra**, R. Prasad (2014) Soil moisture estimation by ANN using bistatic scatterometer data. *ISPRS TC VIII Mid-Term Symposium on Operational RS Applications: opportunities, progress and challenges* during 09-12 December, 2014 at Hyderabad, India and full paper published in ISPRS Annals of Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume II-8, pp.97-100. DOI: 10.5194/isprsannals-II-8-97-2014.

16. Participated and presented a paper in National Symposium on Space Technology for Food & Environmental Security during 5-7 December, 2012 at New Delhi.

Participation in Workshops:
- Two days National Workshop on **"Geospatial Data Processing for Sustainable Management Practices using Python"** jointly organized by RBased Services Pvt. Ltd. and Suresh Gyan Vihar University, Jaipur during 15-16 October, 2019.
- One day workshop on **"Use of SuperMap GIS"** organized by Centre for Climate Change and Water Research (C3WR), Suresh Gyan Vihar University, Jaipur on 15 February, 2019.
- National workshop on **"Techniques in Hyperspectral Data Analysis and Processing"** jointly organized by IESD, BHU and Department of Physics, IIT (BHU), Varanasi during 29 May-03 June, 2017.
- One day workshop on **"Open-Source GIS"** organized by Department of Civil Engineering, IIT (BHU), Varanasi on 8 October, 2015.
- National workshop on **"Mathematical Modeling and Computer Simulation"** organized by Teaching and Learning Cell, IIT (BHU), Varanasi during 20-21 March, 2015.
- National workshop on **"Save Water: Technologies and Trends"** (SWTT-2014) organized by Department of Civil Engineering, IIT (BHU), Varanasi during 29-30 March, 2014.

Participation in Trainings/outreach courses/ faculty development programs (FDPs):
- Online course certificate on **"Introduction to Environmental Law and Policy"** conducted by The University of North Carolina at Chapel Hill through Coursera learning website.
- Online course on **"Remote Sensing & GIS Technology and Applications for University Teachers & Government Officials"** organized by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun during 13-06-2020 to 01-07-2020.
- Online course on **"Health GIS: Geoinformatics for COVID19"** conducted by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun, during 15-06-2020 to 19-06-2020.
- Online course on **"Overview of Planetary Geosciences with special emphasis to the Moon and Mars"** organized by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun 08-06-2020 to 12-06-2020.

- One week online FDP on **"Remote Sensing Applications & Current Trends in Machine Learning"** organized by Dr. MGR Educational and Research Institute, Chennai, India during 22-29 June 2020.
- One week International FDP on **"Recent Trends in Science and Technology"** organized by Suresh Gyan Vihar University, Jaipur, India during 15-20 June 2020.
- One week online FDP on **"Quantum Geographic Information System (QGIS)"** organized by Don Bosco College of Engineering, Goa and sponsored by MHRD Government of India during 01-05 June 2020.
- One week online STTP on **"Sensor, IoT & Machine Learning"** conducted by, K. J. Somaiya College of Engineering, Vidyavihar, Mumbai during 01-05 June 2020.
- One week online STTP on **"Recent trends in Research Methodology"** organized by REST Society for Research International (RSRI), Krishnagiri, Tamil Nadu, India during 25-29 May 2020.
- One week online FDP on **"Artificial Intelligence"** organized by AICTE Training and Learning (ATAL) Academy at MNNIT Allahabad during 18-22 May 2020.
- Certificate of EDUSAT based training course (from 18/02/2019 to 01/03/2019) on **"Principles of Polarimetric SAR Remote Sensing and its Processing"** conducted by Indian Institute of Remote Sensing (ISRO), Department of Space, Government of India.
- Completed Massive Open Online Course (MOOC) on **"Earth Imagery at Work"** conducted by ESRI (6 weeks).
- Completed Massive Open Online Course (MOOC) on **"Cartography"** conducted by ESRI (6 weeks).
- Completed Massive Open Online Course (MOOC) on **"Going Places with Spatial Analysis"** conducted by ESRI (6 weeks)
- Special training course on **"Atmospheric Remote Sensing for Weather and Climate"** organized by marine and atmospheric sciences department Indian Institute of Remote Sensing (ISRO), Department of Space, Government of India during 02-12 January, 2018.
- Certificate of EDUSAT based training course (from 27/01/2015 to 27/03/2015) on **"Application of Remote Sensing & GIS for Natural Resources"** conducted by Indian Institute of Remote Sensing (ISRO), Department of Space, Government of India.
- LATEX training programme organized by DST-Centre for Interdisciplinary Mathematical Sciences (CIMS), BHU in the month of September, 2014.
- DST sponsored short course on **"Hyperspectral Remote Sensing for Agriculture"** organized by Division of Agricultural Physics, Indian Agricultural Research Institute, New Delhi during 18-27 February, 2013.
- Pre-symposium Tutorial on **"Advances in Spectrometry for Earth Remote Sensing"** organized by Division of Agricultural physics, Indian Agricultural Research Institute, New Delhi during 03-04 December, 2012.
- One-Year M.Tech. training completed in Snow & Avalanche Studies Establishment (SASE), RDC, DRDO, Chandigrah, under the guidance of Dr. Snehmani, Scientist 'F' Joint Director, SASE, RDC Chandigarh on the Topic **"Snow cover area (SCA) mapping using multi-sensor satellite data"**.
- Certificate of EDUSAT based training course (from 12/08/2009 to 30/10/2009) on **"Remote Sensing, Geographical Information System and Global Positioning System"** conducted by Indian Institute of Remote Sensing (NRSC), Department of Space, Government of India.

Conferences/workshops organized:

- International virtual conference on "**Earth Observation Technologies for Environmental Management**" at Centre for Climate Change and Water Research, SGVU, Jaipur on 31 August 2021. (Role: Convener)
- 7th Annual International Virtual Conference on **"Sustainability in Current Scenario: Challenges and Solutions (SCSCS-2020)"** at Centre for Climate Change and Water Research, SGVU, Jaipur during 05-07 November, 2020. (Role: Convener)
- 6th Annual International Conference on **"Recent Perspectives on Climate Change and Sustainable Development (RPCSD-2019)"** at Centre for Climate Change and Water Research, SGVU, Jaipur during 08-10 November, 2019. (Role: Convener)
- National Workshop on **"Geospatial Data Processing for Sustainable Management Practices using Python"** at Centre for Climate Change and Water Research, SGVU, Jaipur during 15-16 October, 2019. (Role: Convener)
- One day workshop on **"Use of SuperMap GIS"** at Centre for Climate Change and Water Research, SGVU, Jaipur on 15 February, 2019. (Role: Convener)

Invited talk/lectures:

- Delivered invited talk on **"Career Opportunities in Geospatial Industry for Students"** in an online short-term course on Remote Sensing on the theme *"Remote Sensing Applications for Skill Development in light of NEP-2020"* organized by Centre for Professional Development in Higher Education (CPDHE), UGC-HRDC, University of Delhi from 24th to 30th June 2022.
- Delivered invited talk on **"Application of Remote Sensing and GIS in Environmental Monitoring and Management"** in two weeks online Interdisciplinary refresher course in Environment on *"Environment and Human Health"* organized by the Department of Environmental Studies, Ramanujan College, University of Delhi in collaboration with the Teaching Learning Centre, Ramanujan College from 28th March to 11th April 2022.
- Delivered invited talk on **"Use of hyperspectral imaging in land use planning"** in three weeks certificate course on *"Land Use Planning for Climate Smart Agriculture"* organized by CAAST-CSAWM, Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar, Maharashtra scheduled from 21st February to 13th March, 2022.
- Delivered invited talk and hands-on training in three weeks certificate course on **"Application of RS and GIS in Natural Resource Management"** organized by CAAST-CSAWM, Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar, Maharashtra scheduled from January 10 to 30, 2022.
- Delivered an invited talk on **"Geospatial technology for Environmental Monitoring and Management"** in an international webinar organized by the C. J. Patel College, Gondia, Maharashtra on 26 October 2021.
- Delivered an invited talk on **"Sustainable Urban Planning: Challenges and Solutions"** in five days faculty development program on *"Recent Advancement in Environmental Sustainability and Conservation Strategies"* organized by Amity University, Noida during 17-21 May, 2021.
- Delivered an invited talk on **"Geoinformatics for Urban Growth Studies"** in a faculty development program organized by academic staff college, SGVU on 08 April, 2021.
- Delivered an invited talk on **"Geospatial technology in urban growth studies: dynamics and future scenario"** in international webinar series on *"Applications of Geospatial Technology"* organized by AIGIRS, Amity University, Noida on 25 June 2020.

- Delivered an invited talk on "**Recent Advancements in Agriculture"** in National Seminar on *Technology Innovation for Transformation of Desert Economy* of Rajasthan organized by Suresh Gyan Vihar University, Jaipur on 28 March, 2019.

Awards and honors:
- Best paper award in the first international conference **NUclearCSE-2022** organized by NIIT University, Neemrana, Rajasthan during 20-22 January 2022.
- Financial Support for young researchers and students by ISPRS Technical Commission VIII Mid-Term Symposium held at Hyderabad during 09-12 December, 2014.

Extra-curricular Activities:
- N.C.C. **"C"** certificate holder from 101 UPBN NCC Mirzapur
- Training and Placement Representative (TPR) of Department of Physics, IIT (BHU), Varanasi
- Worked as a volunteer in the institute day celebration at IIT (BHU) during 02-03 April, 2016

Reviewers of the Journals:
- Geocarto International, Journal of Earth System Science, Journal of Urban Management, Arabian Journal of Geosciences, Advances in Space Research, Journal of Landscape Ecology etc.

Theses Supervised:
Ph.D.
1. Assessment of urban sprawl and its impact on agricultural land: a case study of Muzaffarpur district (Bihar), India. Mr. Bhartendu Sajan (SID: 59124). Ongoing (Role: *Supervisor*).
2. Deep learning-based crop classification using earth observation datasets. Mrs. Priyanka Gupta (SID: 59214). Ongoing (Role: *Supervisor*)

M.Tech.
1. Delineation of groundwater potential zones in Bilaspur district, Himachal Pradesh using GIScience (MIF techniques). Mr. Rahul Kanga. Year 2021; completed. (Role: *Supervisor*)
2. A GIS based mapping of optical fiber cable in a part of Alwar district, Rajasthan, India. Mr. Saurabh Sharma. Year 2019; completed. (Role: *Co-supervisor*)
3. Frequency ratio model for groundwater prospect zonation: a case study of Banganga river basin, India. Mr. Mukesh Singh Yadav. Year 2019; completed. (Role: *Co-supervisor*)

M.Sc.
1. Estimation of soil moisture using Sentinel-1 data over Himalayan region. Mr. Rishabh Singh. Year 2022; completed (Role: *Supervisor*)
2. Comparison of polarimetric models for scattering-based characterization of LULC. Miss Shatakshi Verma. Year 2021; completed. (Role: *Supervisor*)
3. Analysis of polarimetric techniques for characterization of glacial features. Miss Shaswati Singh. Year 2021; completed. (Role: *Supervisor*)
4. Comparative analysis of prominent classifiers in conjunction with LULC and tree cover assessment using high resolution satellite images. Mr. Akshay Rai. Year 2020; completed (Role: *Supervisor*)
5. Geospatial approach for management of solid waste: a case study of Tonk district, Rajasthan, India. Mr. Arup Kar. Year 2019; completed. (Role: *Co-supervisor*)

6. Evaluation of hydrogeomorphology for groundwater prospect mapping. by Mr. Abidur Jaman Sekh. Year 2019; completed. (Role: *Co-supervisor*)

References:
1. Prof. Rajendra Prasad
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2. Prof. Milap Punia
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Jawaharlal Nehru University, New Delhi-110067, India
E-mail: *punia@mail.jnu.ac.in*

3. Dr. Praveen Kumar Rai
Associate Professor and Head
Department of Geography
K.M.C. Language University, Lucknow-226013, India
E-mail: *rai.vns82@gmail.com*

Declaration

I hereby declare that all the statements made in the curriculum vitae are true to the best of my knowledge and belief.

DATE:

PLACE: Noida   **(Varun Narayan Mishra)**

Google Scholar Citations:
https://scholar.google.com/citations?pli=1&authuser=1&user=b_Sqn_IAAAAJ

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