

# Dr. Rahisha Thottolil

 [Rahisha-Thottolil](#) |  [rahisha](#) |  [rahisha.thottolil@gmail.com](mailto:rahisha.thottolil@gmail.com) |  +91 9846022468

GEOSPATIAL DATA SCIENTIST — POSTDOCTORAL RESEARCHER — URBANIST —  
IEEE GRSS CHAPTER COMMITTEE MEMBER

---

Dedicated and motivated researcher specializing in Spatial Data Science for Urban Studies, with a strong foundation in Remote Sensing, GIS, and Geo-AI. My research focuses on leveraging Earth Observation data and spatial analytics to address complex urban and environmental challenges. I am deeply passionate about advancing geospatial research and continuously exploring new frontiers in Geoscience and Earth Observation applications.

My long-term goal is to pursue a research and teaching career at a reputed university, where I can continue to develop innovative methodologies, contribute to national development through research, peer-reviewed publications, and engage actively in international conferences. Through my work, I aspire to make meaningful contributions to society while achieving professional and personal fulfilment.

## WORK EXPERIENCE

---

**Bengaluru Science and Technology (BeST) cluster, IISC Campus, India** July 2025 - present  
*Postdoctoral Researcher* *Python, RStudio*

- Project: Multi-Modal Mobility Solutions for Megaregions around Bengaluru.

**University of Johannesburg, South Africa** Jan 2025 - Present  
*Visiting Senior Research Associate (Remotely)* *Urbaninformatics*

- Project: Understanding the Nexus Between Urbanization and Industrialization  
Department of Urban and Regional Planning

**International Institute of Information Technology Bangalore, India** Aug 2024 - June 2025  
*Research Associate - for Mphasis* *Python, RStudio*

- Project: Modern Deep Learning and Geospatial Models to Tackle Climate Data Challenges. Core research in Artificial General Intelligence, Machine Learning, Climate Science, Urban Air Quality and Urban Health.

**International Institute of Information Technology Bangalore, India** Jan 2019 - Dec 2024  
*Ph.D. Research Scholar* *Python, QGIS, GEE*

- Analysed the spatio-temporal patterns of urban expansion and quantified the shifts in growth patterns of urban hotspots attributed to specific events or triggers in Bangalore City.
- Future urban growth trends were predicted using Patch-generating Land Use Simulation (PLUS) and Spatio-Temporal Matrix (STM) models.
- A novel two-step hybrid framework called RidgeGAN (Generative Adversarial Networks) is proposed by combining Kernel Ridge Regression (KRR) and CityGAN for predicting network density in both real and simulated cities.

**Institute for Social and Economic Change, Bangalore** Apr 2018 - Dec 2018  
*Senior Research Fellow* *ArcGIS, QGIS, Field work*

- Collaborated with the Indian Institute of Space Science and Technology on the project "Field Margin Vegetation and Socio-Ecological Environment: Structural, Functional, and Spatio-Temporal Dynamics in the Rural-Urban Interface of Bengaluru."
- Remote sensing and machine learning to assess how urbanization affect agricultural land use land cover in Bangalore city.

<b>Indian Institute of Science, Department of Aerospace Engineering</b>	Oct 2017 - Dec 2017
<i>Project Assistant</i>	<i>Python, ML, QGIS</i>
<ul style="list-style-type: none"> <li>◦ Involved in automatic object detection projects for computer vision application in Agriculture domain.</li> </ul>	
<b>SysGlob GIS Software Solutions Pvt Ltd</b>	Nov 2016 – Mar 2018
<i>GIS Consultant and Trainer</i>	<i>QGIS, ArcGIS, GRASS</i>
<ul style="list-style-type: none"> <li>◦ Provided GIS consultancy and training to postgraduate and undergraduate students.</li> <li>◦ Conducted hands-on training in QGIS tools for spatial data analysis and visualization.</li> <li>◦ Assisted in integrating GIS techniques into real-world problem-solving across multiple domains.</li> </ul>	
<b>College of Engineering Thalassery, Kerala</b>	2016 - 2018
<i>Visiting Faculty</i>	<i>RS, GIS, DIP, QGIS</i>
<ul style="list-style-type: none"> <li>◦ Conducted tutorials and provided in-depth training on GIS topics, covering fundamental to intermediate levels, for B.Tech Civil Engineering and Computer Science students.</li> </ul>	
<b>Centre for Mathematical Modeling and Computer Simulations (CMMACS-CSIR)</b>	2015 - 2016
<i>Project Intern</i>	<i>Python, QGIS</i>
<ul style="list-style-type: none"> <li>◦ Conducted geospatial data analysis for environmental, coastal zone management and climate studies.</li> <li>◦ Assisted in developing computational models for spatial data simulations.</li> <li>◦ Prepared reports and visualizations to support research findings.</li> </ul>	
<b>National Institute of Technology, Calicut, Kerala.</b>	2014 - 2014
<i>Project Assistant</i>	<i>GIS, RS</i>
<ul style="list-style-type: none"> <li>◦ Worked with GIS and remote sensing tools to analyze land use patterns of Calicut City.</li> <li>◦ Contributed to research on mathematical modeling for geospatial applications.</li> </ul>	
<b>College of Engineering Vadakara(CEV), Kerala.</b>	2012 - 2014
<i>Adhoc Assistant Professor</i>	<i>Teaching</i>
<ul style="list-style-type: none"> <li>◦ Teaching transportation, environmental engineering.</li> </ul>	
<b>Hi-Rise Builders &amp; Developers, Kerala.</b>	2009 - 2012
<i>In-House Civil Engineer</i>	<i>AutoCAD, MS Access</i>
<ul style="list-style-type: none"> <li>◦ Involve in designing phase of multistoried building like 12 floor housing apartment and preparing pre-engineering estimates.</li> <li>◦ Monitoring the quality of materials, workmanship and all the support into every phase of construction.</li> <li>◦ Project management methodologies, principles and techniques to develop plans and manage the projects.</li> </ul>	

## EDUCATION

2019 - 2024	<b>Ph.D. in Spatial Data Science</b>	(GPA: 3.1/4.0)
	International Institute of Information Technology ( <a href="#">IIIT</a> ) Bangalore	
	Thesis: Geospatial Data Analysis to Understand Spatio-Temporal Urban Expansion and Road Network Patterns: Insights from an Emerging Metropolitan Bangalore City, India	
	Coursework (Credited/Audited): <a href="#">Machine Learning (ML)</a> , <a href="#">Digital Image processing (DIP)</a> , <a href="#">Data Modeling</a> , <a href="#">Quantitative Data Analysis and Public Policy</a> , <a href="#">Cyberspace</a> , <a href="#">Globalization</a> , and <a href="#">Location</a> .	
2014 - 2016	<b>M.Tech in Geoinformatics</b>	(GPA: 8.98/10.0)
	Visvesvaraya Technological University (VTU), ( <a href="#">KSRSAC</a> ) Bangalore	
2005 - 2009	<b>B.Tech in Civil Engineering</b>	(Graduated with 66%)
	Government College of Engineering ( <a href="#">GCEK</a> ), Kannur	

## SKILLS

---

**Computer skills:** QGIS, GRASS, ArcGIS, GEE, GeoPython, TerrSet-LCM, PLUS, STM, Digital Photogrammetry LPS, Object Tracking (LIDAR), and  $\text{\LaTeX}$

**Specializations:** Urbaninformatics, Remote sensing, GIS

**Languages:** Python, R, Javascripts

**Misc.:** Academic research, teaching, training, GIS consultation

## TEACHING ASSISTANT EXPERIENCE

---

**IIIT Bangalore**

Jan 2024 - May 2024

*AI 703: Geographic Information Systems* **IIIT Bangalore**

- Assisted in QGIS practicals, conducted sessions on the fundamentals of remote sensing and GIS.

**IIIT Bangalore**

Aug 2023 - Dec 2023

*AI 821: Spatial Computing*

s

- Assisted in class room lectures and practicals.

**CUSAT Kerala**

Aug 2012 - Dec 2013

*Transportation Engineering, Enviromental Science, Mechanics, Humanities*

- Teaching and conducting exams.

## JOURNAL ARTICLE

---

1. **Rahisha Thottolil** and Uttam Kumar and Tanujit Chakraborty, “Prediction of transportation index for urban patterns in small and medium-sized Indian cities using hybrid RidgeGAN model,” in Nature Scientific Reports. Sci Rep 13, Article number 21863, 2023 [RidgeGAN\(DOI\)](#)
2. **Rahisha Thottolil**, K Gajalakshmi, “Dynamic mapping of COVID-19 outbreak in Karnataka region using Python-GIS,” in International Journal of Current Engineering and Scientific Research, Volume 8(3), 1-6, 2021 ([URL](#))
3. **Rahisha Thottolil**, V. Shreedhara and K. C. Gouda, “Monitoring and Modelling of Shoreline Change for Coastal Zone Management off Mangalore Coast, Karnataka, India,” in International Journal of Science and Research (IJSR), ISSN: 2319-7064, Volume 8 Issue 10, Oct-2019([DOI](#))
4. **Rahisha Thottolil**, V. Shreedhara and K. C. Gouda, “Change Detection in Mangalore Coastline Using Multi-Temporal Remote Sensing Satellite Data and GIS,” in International Journal of Advances in Mechanical and Civil Engineering, ISSN: 2394-2827 Special Issue, Sep-2016 ([URL](#))

## JOURNAL ARTICLE (SUBMITTED)

---

1. **Rahisha Thottolil** and Uttam Kumar, “Machine Learning approach for assessing urban land use and land cover and modelling urban growth in Bangalore City, India.” in International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 2025 (Under review)
2. **Rahisha Thottolil** and Uttam Kumar, “Multidecadal Spatiotemporal Analysis of Urban Expansion in Bangalore City” in Computational Urban Science -2025 (Under review)

## BOOK CHAPTERS

---

1. **Rahisha Thottolil**, Uttam Kumar and Aurobindo Ogra, “Event-Triggered Dynamic Urbanisation and Urban Land Expansion -A Case Study of Bangalore, India,” in Lecture Notes in Civil Engineering, Springer Nature Singapore Pte Ltd, 2025
2. **Rahisha Thottolil**, Uttam Kumar and Yash Mittal, “Quantitative Assessment of Urban Road Network

- Hierarchy, Topology and Walkable Access using Open-Source GIS Tools,” in Infrastructure and Built Environment for Sustainable and Resilient Societies, Chapter 14, Springer Natures ([DOI](#))
3. **Rahisha Thottolil** and Uttam Kumar, “Topological Assessment of Road Transportation Network,” in Cognitive Sensing Technologies and Applications, Chapter 17, IET ([URL](#))
  4. **Rahisha Thottolil** and Uttam Kumar, “Graph Mathematical Morphology,” in Daya Sagar, B.S., Cheng, Q., McKinley, J., Agterberg, F. (eds) Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series, Springer, Cham ([DOI](#))

## CONFERENCES

---

1. Aurobindo Ogra, **Rahisha Thottolil**, Humayun Rashid, and Reyaz Qureshi, “Change Detection of Urban Land Use Land Cover (LULC) and Built Form from 1990-2024 in Srinagar City, Jammu and Kashmir, India”, in the 1st International Conference on Climate Resilience, Smart and Sustainable Futures (ICCRSF 2025), Johannesburg, South Africa, 25-29 August 2025 ([URL](#))
2. Aurobindo Ogra, **Rahisha Thottolil**, Humayun Rashid, and Reyaz Qureshi, “Exploratory and Spatial Analysis of Tourist Accommodation in Srinagar District, Kashmir, India ”, in the 1st International Conference on Climate Resilience, Smart and Sustainable Futures (ICCRSF 2025), Johannesburg, South Africa, 25-29 August 2025. ([URL](#))
3. **Rahisha Thottolil**, Madhurima Panja and Uttam Kumar, “Analysis of Regional Air Quality Data using Extreme Value Theory and Deep Learning Models”, in the International Geoscience and Remote Sensing Symposium (IGARSS), Brisbane, Australia, August 2025 ([URL](#))
4. **Rahisha Thottolil**, Uttam Kumar and Sai Shruti Prakhya “Predicting Urban Growth Using a Spatio-Temporal Matrix Model: Insights from Bangalore City, India”, in the International Geoscience and Remote Sensing Symposium (IGARSS), Brisbane, Australia, August 2025 ([URL](#))
5. **Rahisha Thottolil**, Uttam Kumar and Aurobindo Ogra “Event-Triggered Dynamic Urbanisation and Urban Land Expansion – A Case Study of Bangalore, India” in the International Conference on Building Urban Infrastructure with Leading Design Innovations, Chandigarh University, Punjab, India, May 2025 ([URL](#))
6. **Rahisha Thottolil** and Uttam Kumar, “Mitigating Urban Congestion of Bangalore City: Predicting Transportation Indices for Small and Medium-Sized Neighbouring Cities,” in the AI and the City conference, School of Cities India at the University of Toronto and the Center for Information Technology and Public Policy, Bangalore, India, January 2025 ([URL](#))
7. **Rahisha Thottolil** and Uttam Kumar, “Shaping Tomorrow’s Cities: ML-Driven Insights for Small and Medium-Sized Settlements and Transportation in India,” in Third IADF School on Computer Vision for Earth Observation, Poster presentation, University of Sannio, Italy, September 2024 ([URL](#))
8. **Rahisha Thottolil**, Uttam Kumar and Aswathi “Predicting urban expansion using a Patch-generating Land Use Simulation (PLUS) Model: A case study of Bangalore City, India” in the India Geoscience and Remote Sensing Symposium (InGARSS 2023), Bangalore, India, December 2023 ([DOI](#))
9. **Rahisha Thottolil**, Uttam Kumar and Tanujit Chakraborty “Indian Cities of the Future: Predicting the Urban Patterns and Transportation Indices for India’s Urban Ecosystem using Machine Learning” in the POMS India International Conference, Envisioning the Future of Operations for Sustainability, Xavier School of Management (XLRI), Jamshedpur, India, December 2023
10. **Rahisha Thottolil** and Uttam Kumar, “Topological Classification of Small and Medium-sized Urban Road Networks - A Case Study of Indian Cities,” in the conference of the IEEE Geoscience and Remote Sensing Society, Pasadena, California, USA, July 2023 ([DOI](#))
11. **Rahisha Thottolil** and Uttam Kumar, “Quantitative assessment of urban road network hierarchy, topology and walkable access using open-source GIS tools,” in the proceedings of the Infrastructure and Built Environment: Towards Sustainable and Resilient Societies, IIT Kharagpur, India, Feb 2023
12. **Rahisha Thottolil** and Uttam Kumar, “Cloud Computing for Big Geospatial Data Analysis with Google

Earth Engine – Urban Research Applications,” in the Lake 2022, 13th International Biennial Lake Symposium, IISc Bangalore, India, December 2022

13. **Rahisha Thottolil** and Uttam Kumar, “A comparative study of Deep Learning methods for Building Footprint extraction using high resolution WorldView 2 images,” in the Student Paper Presentation Competition (SPP -2022), organized by IEEE Geoscience and Remote Sensing Society Bangalore Chapter and NITK GRSS Student Chapter June 2022
14. **Rahisha Thottolil** and Uttam Kumar, “Urban Land Resource Mapping of Bangalore City using Sentinel-2A data through Machine Learning on Google Earth Engine Platform,” in proceedings of the Applications of ML and Data Science in Inter-disciplinary areas, IIM Visakhapatnam, India, May 2022
15. **Rahisha Thottolil** and Uttam Kumar, “Automatic Building Footprint Extraction using Random Forest Algorithm from High Resolution Google Earth Images: A Feature-Based Approach,” in proceedings of the IEEE International Conference on Electronics, Computing and Communication Technologies (IEEE CONECCT), Bangalore, India, July 2022 ([DOI](#))
16. Naresh Pajjuri, Uttam Kumar and **Rahisha Thottolil**, “Comparative Evaluation of the Convolutional Neural Network based Transfer Learning Models for Classification of Plant Disease,” in the proceedings of the IEEE International Conference on Electronics, Computing and Communication Technologies (IEEE CONECCT), Bangalore, India, July 2022 ([DOI](#))
17. **Rahisha Thottolil** and Uttam Kumar, “Assessment of Topological Pattern of Road Network: A Case Study of Bangalore City,” in the proceedings of the India Geoscience and Remote Sensing Symposium (InGARSS 2021), Ahmedabad, India, December, 2021 ([DOI](#))
18. Manjunath Bhimappa Ujjinakoppa, Uttam Kumar, **Rahisha Thottolil** and Anindita Dasgupta, “Multimodal and Multi-Temporal Spatial Data Analysis in Google Earth Engine Cloud Computing Platform to detect Human Settlements without Electricity: A Case Study of Bangalore City,” in the proceedings of the India Geoscience and Remote Sensing Symposium (InGARSS 2021), Ahmedabad, India, December 2021. ([DOI](#))
19. **Rahisha Thottolil** and Sunil Nautiyal, “Structure and composition of field margin vegetation under changing environment,” in the proceedings of Indo-China Conference on Economic Growth in India and China: Social and Economic Impacts, ISEC, Bangalore, India, Sept 2018
20. **Rahisha Thottolil** and V. Shreedhara and K. C. Gouda, “Web-based information system to support the sustainable development of Mangalore coast using EO images and GIS,” in the proceedings of 2nd International Conference on Coastal Zones, Melbourne, Australia, July 2017 ([URL](#))
21. **Rahisha Thottolil** and V. Shreedhara and K. C. Gouda, “Change detection in Mangalore coastline using multi-temporal Remote Sensing Data and GIS,” in the proceedings of International Conference on Mechanical, Civil, Electronics and Communications and Computer Science Engineering (ICMCECE – 16), Bangalore Technological Institute (BTI), India, April, 2016 ([URL](#))
22. **Rahisha Thottolil** and V. Shreedhara and K. C. Gouda, “Monitoring the change of Land use Land cover of Mangalore coast using Geo-Informatics techniques,” in the proceedings of the UGIT 5th International Conference, Geospatial Technologies in Urban Sustainability - Issues and Challenges, Bangalore University, India, Feb 2016
23. **Rahisha Thottolil** and V. Shreedhara and K. C. Gouda, “A shoreline prediction model for coastal zone management off Mangalore coast,” in the proceedings of the UGIT 4th international conference on Remote sensing and GIS, Applications on coastal management, Mangalore University, India, Feb 2015
24. **Rahisha Thottolil** and V. Shreedhara and K. C. Gouda, “Change detection in Karnataka coastline using multi-temporal Remote sensing data and GIS,” in the National Conference on Geospatial Information & Technology Advancement (GITA-2K15), Udupi, India, Oct 2015

## JOURNAL PEER REVIEWER

---

- International Journal of Digital Earth (IJDE)

- Journal of Urban Technology
- PLoS ONE (published by the Public Library of Science)
- Scientific Reports- Nature
- Journal of Selected Topics in Applied Earth Observations and Remote Sensing

## ACADEMIC ACHIEVEMENTS & AWARDS

---

- **Recipient, IEEE Family Cares Grant Program**, \$ 500 [June 2025]
- **Awarded Travel Grant \$ 1850** for IGARSS 2025 by the IEEE Geoscience and Remote Sensing Society (GRSS) to present research at IGARSS 2025, Brisbane, Australia.
- **Awarded Travel Grant \$ 1650** from *IEEE GRSS Global Activities* Region 10 Chapter Coordinator-India, represented IEEE GRSS GA at the IADF summer school on Computer Vision for Earth Observation (CV4EO) held at the University of Sannio, Benevento, Italy, September 2024
- **Conference support** 15000 INR from IEEE GRSS Bangalore Chapter, India, December 2023
- **Student travel grant** 180000 INR from *IIT Bangalore*, India July 2023
- **IEEE IGARSS volunteer** Covered *IEEE/GRSS Student Member Registration of 400 USD*, Pasadena, California, USA, July 2023
- **Best Paper Presentation Award** at *Annual Conference on Infrastructure and Built Environment: Towards Sustainable and Resilient Societies (IBSR 2023)*, IIT Kharagpur, February 2023 (Award amount: EUR 200).
- **IEEE Best Student Paper Presentation (SPP) First Place** at *IEEE Geoscience and Remote Sensing Society, Bangalore Chapter and NITK GRSS Student Chapter*, 4 June 2022, Bangalore, India.
- **IEEE GRSS IDEA Scholarship**, *Professional Development Microgrant* of 500 USD, 2022
- **Second Topper**, *M. Tech in Geo-informatics* with excellent academic records
- **UGIT's Young Technologist's Award - First prize**, given by *Union of Geographic Information Technologists*
- **Map Hunter Award-level** with 40 badges, Issued by *HERE Map creator community*, India.

## LEADERSHIP/EXTRACURRICULAR

---

- IEEE GRSS Chapter Chair Committee Member (2025-present), Region 10 Chapter Coordinator, AdCom Member, 2024
- Organizing Committee Member, IEEE InGARSS Conference, 2023, 2024 and 2025
- Organizing Chair, Women in Engineering (WIE) and Diversity, Equity and Inclusion (DEI) Program, IEEE InGARSS 2023
- Session Manager, IEEE IGARSS Conference, 2023
- IEEE GRSS Execom Member, 2021-2023, Bangalore Section, (Representing IIITB)

## INVITED TALKS AND EXPERT LECTURE

---

1. **Chief Guest** for the Civil Engineering Association Day at the *College of Engineering Thalassery, Kerala*, Topic: Spatial Insights for Urban Planning: The Future of Civil Engineering, October 2025.
2. **Keynote speaker** at the EarthSense 2025– IEEE INTERNATIONAL CONFERENCE ON NEXT-GEN TECHNOLOGIES OF ARTIFICIAL INTELLIGENCE AND GEOSCIENCE REMOTE SENSING *Koneru Lakshmaiah University, Hyderabad*, Topic: Geospatial Insights into Urban Expansion and Mobility Challenges, September 2025.



3. **Panelist member** for the IEEE GRSS YP event at IGARSS 2025 (Australia), discuss career paths in geoscience and remote sensing and provide insights into the field of GRSS, August 2025.
4. **Invited speaker** at *Nitte Meenakshi Institute of Technology* Bengaluru, organized by the IEEE GRSS chapter, Topic: Remote Sensing for Urban Growth and Mobility Challenges in Bangalore, April 2025.
5. **Guest Lecturer** at *Manipal Institute of Technology* Bengaluru, organized by the IEEE GRSS chapter in collaboration with IEEE CIS, Topic: Fundamentals of Remote Sensing and GIS and Its Real-Time Applications in Urban Studies, March 2025.
6. **Invited speaker** at Dept. of Civil Engineering, *RGM College of Engineering Technology (Autonomous)*, Nandyal, Hyderabad, Topic: Geospatial applications in sustainable urban planning and management, November 2024.
7. **Invited speaker** at the IEEE GRSS Student, Young Professional, and Women Congress (GRSS SYW) *Koneru Lakshmaiah University, Hyderabad*, Topic: IEEE GRSS SB Opportunities, November 2024.
8. **Invited speaker** at the *University of Sannio, Italy*, Topic: From Membership to Leadership: Advancing Your Career with IEEE GRSS, IADF summer school on on Computer Vision for Earth Observation (CV4EO), September 2024.
9. **Resource person** in *Karnataka Science and Technology Academy, Bangalore*, Topic: Research Methodology, Research and Publication Ethics, Open access publications & Software tools to identify predatory publications & Plagiarism, Bibliography Management in LaTeX, (KSTA), Oct-2023.
10. **Resource person** in *Larsen & Toubro*, Topic: Spatial Data Science and Applications, (Online), April, 2023.
11. **Invited speaker** in *Samvaad*, Topic: Geospatial Technologies in Urban and Transportation studies, (IIIT Bangalore), March 2023.
12. **Invited speaker** at *Indian Institute for Human Settlements (IIHS)*, Let's Talk Spatial, Topic: Geospatial applications in Urban Studies, (Bengaluru), Jan 2023.
13. **Resource person** in *Larsen & Toubro*, Topic: GIS Training program: Python foundation for spatial data analysis, Jan, 2023.
14. **Resource person** in *Lake Symposium-CES, IISC*, Topic: Geospatial application using GEE, 28-30 Dec, 2022.
15. **Resource person** in *Five Day workshop*, Topic: Research methodology and data analysis, Sampling and Latex, (KSTA Bangalore), Dec, 2022.
16. **Resource person** in *BIT College*, Topic: Data visualization using Excel, Different types of charts, Framing interactive dashboards, (Bangalore), 18 Oct 2022.
17. **Resource person** at *GMRIT Hyderabad*, Topic: Introduction of RS and GIS in Civil Engineering Applications, (Online), Sept, 2022.
18. **Organizer & Resource person** in *IEEE GRSS Bangalore section and IEEE India council*, Mapathon, (BMS College of Engineering) Sept 2022.
19. **Invited talk** at *IEEE GRSS Bangalore Chapter*, Student representative in Geoscience research, July, 2022.
20. **Resource person** in *KSTA*, Topic: Introduction to Statistical Data Analysis using R- Software, (GKVK, Bangalore), March 2022.
21. **Resource person** in *College of Engineering Thalassery*, 4 Days workshop on software application of GIS, QGIS Training (CET Kerala), Oct 2021.
22. **Resource person** in *PSG college of Engineering Hederabad*, 2 days Workshop on QGIS (Online), Aug 2021.
23. **Resource person** in *BIT College Bangalore*, Topic: Python Class Data visualization (Online), July 2021.

24. **Resource person** in *Thalassery College of Engineering*, One day workshop on Open source GIS Software: QGIS, (CET, Kerala), June 2021.
25. **Resource person** in *Department of Civil Engineering, St.Peter's Engineering College*, Hyderabad, 3 Days Hands-on training in QGIS, May 2021.
26. **Resource person** in *R.V. College of Engineering*, Faculty Development Programme: Desktop GIS with QGIS, (Online), 14 July 2020.
27. **Resource person** in *CUSAT*, One day workshop on Open source GIS Software, (Online), Feb 2020.
28. **Resource person** in *Sree Shankaracharya University of Sanskrit- Kalady*,, Topic: Remote Sensing and GIS Application in GEOLOGY, (Kerala), June 2016.

## CERTIFICATION

---

- Selected to attend the IGARSS 2025 Summer School, organised by the IEEE Geoscience and Remote Sensing Society (GRSS), based on academic merit and research relevance in 2025.
- End to End Google Earth Engine (GEE), Spatial Thoughts, 2020.
- Advanced spatial analytics and Deep Learning for Geospatial applications, NIAS, IISC, India, 2020.
- Geospatial Analysis using Python, Spatial Thoughts, 2019.

## REFERENCES

---

Dr.Uttam Kumar

Associate Professor, International Institute of Information Technology Bangalore

✉ [uttam@iiitb.ac.in](mailto:uttam@iiitb.ac.in) | 🌐 [Homepage](#)

Dr.Jaya Sreevalsan Nair

Professor, International Institute of Information Technology Bangalore

✉ [jnair@iiitb.ac.in](mailto:jnair@iiitb.ac.in) | 🌐 [Homepage](#)

Dr.Tanujit Chakraborty

Associate Professor, Sorbonne University, Abu Dhabi & Paris

✉ [tanujit.chakraborty@sorbonne.ae](mailto:tanujit.chakraborty@sorbonne.ae) | 🌐 [Homepage](#)

Dr Aurobindo Ogra

Senior Lecturer, Department of Urban and Regional Planning,  
Faculty of Engineering and the Built Environment, University of Johannesburg,  
Johannesburg 2028, Gauteng, South Africa

✉ [aogra@uj.ac.za](mailto:aogra@uj.ac.za) | 🌐 [Homepage](#)