

EKTA BARANWAL

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1. CAREER OBJECTIVE:

I am a person full of curiosity and eager to explore the things I like. I always try to find logic and creativeness in conventional things. This nature drove me towards my passion, which is all about Remote Sensing, GIS, and their applications in various fields. As a passionate researcher, I am always concerned about sharing and edifying my skills and wealth of knowledge in remote sensing. Presently, I am looking forward to the post of **Assistant Professor** at an educational institution to elevate and enrich Geoinformatics & Remote Sensing's knowledge among the posterity.

2. EDUCATION QUALIFICATIONS:

Degree	Year of Passing	% Marks/ CGPA	University/ Institute	Main Subject/ Specialization
Ph.D. in GIS & Remote Sensing	Pursuing (Course work completed)	71% (in course work)	Jamia Millia Islamia, New Delhi	Developing new spectral indices for Detection and auto-extraction of built-ups in an urban area using satellite imagery
P.G. Diploma	2019	67.4	IGNOU	Urban Planning and Development
M. Tech	2018	9.02	Banasthali University, Rajasthan	Remote Sensing
P.G. Diploma	2014	65	CDAC, Noida	Geoinformatics
B. Tech	2009	63.48	Moradabad Institute of Technology, Moradabad	Electronics & Communication
XII-Board	2004	62	U.P. Board	Physics, Chemistry, and Mathematics
X-Board	2002	62.83	U.P. Board	Science

3. TECHNICAL SKILLS:

Digital Image Processing, Remote Sensing and GIS Software's	ArcGIS, ERDAS IMAGINE and ER MAPPER, ENVI Classic, e-Cognition Developer, Agisoft Photoscan, Pix4D, CloudCompare
Others (GPS Device)	Trimble R3 DGPS and JUNO
Computer skills	Basics of .Net, Python, MS Office, SPSS, MATLAB

4. RESEARCH AND PUBLICATIONS (FROM Ph.D. THESIS):

4.1. Book Chapters

- "Spectral Ratioing: A Computational Model for Quick Information Retrieval of Earth's Surface Dynamics" in the book: Geographic Information Science for Land Resource Management from Wiley Scrivener Publishing (Scopus indexed), published in 2021

4.2. Research Papers

- "Retrieving spatial pattern of urban using spectral ratios for major features of an urban ecosystem with satellite image processing" in Scopus indexed IOP Conference Series: Earth and Environmental Science, published in 2021
- "Urban pattern extraction within high and medium vegetated terrain through satellite image processing using the index-based built-up index and LANDSAT OLI/TIRS imageries" in IEEE Xplore, published in 2021
- "Spatiotemporal Analysis for urban pattern evolution in sacred district Mathura of India through K-means

classification" in International Journal of Town Planning and Management by Journals Pub, published in 2019

4.3. Presented Papers

- i. "Retrieving spatial pattern of urban using spectral ratios for major features of an urban ecosystem with satellite image processing" in International Conference on Sustainable Energy, Environment and Green Technologies (ICSEEGT-2021)
- ii. "Urban pattern extraction within high and medium vegetated terrain through satellite image processing using the index-based built-up index and LANDSAT OLI/TIRS imageries" in International Conference on Innovative Practices in Technology and Management (ICIPTM 2021)

5. RESEARCH AND PUBLICATIONS (OTHERS):

5.1. Book Chapters

- i. "Assessing Spatiotemporal Degradation of Yamuna River in Sacred Indian City Mathura" in the book: GIScience for the Sustainable Management of Water Resources from Apple Academic Press (AAP) exclusive co-publishing with CRC Press, a Taylor & Francis Group (In Press) (Scopus indexed)
- ii. "Unmanned Aerial Vehicles (UAV) Photogrammetry in Remote Sensing for Archaeological Application" in the book: Unmanned Aerial Vehicles from series: Robotics Research and Technology published in 2020 by Nova Science Publisher

5.2. Research Papers

- i. "Health monitoring and assessment of the cultural monument through unmanned aerial vehicle (UAV) image processing" in Advances in Systems Engineering, Lecture Notes in Mechanical Engineering by Springer (Scopus indexed), published in 2021
- ii. "Application of Unmanned Aerial Vehicle (UAV) for damage assessment of a cultural heritage monument" in Proceedings of UASG 2019, Unmanned Aerial System in Geomatics, Lecture Notes in Civil Engineering by Springer (Scopus indexed), published in 2020

5.3. Presented Papers

- i. "Health monitoring and assessment of the cultural monument through unmanned aerial vehicle (UAV) image processing" in 43rd National Systems Conference on Innovative and Emerging Trends in Engineering Systems (NSC 2019)
- ii. "Application of Unmanned Aerial Vehicle (UAV) for damage assessment of a cultural heritage monument" in 1st International Conference on Unmanned Aerial System in Geomatics (UASG-2019)
- iii. "Landsat-8 OLI/TIRS based Built-Up Index Suitability Analysis: A case study of Haryana, India" in 38th IIG Conference, 2017

6. EMPLOYMENT EXPERIENCE:

Name of Organization	Period of Service	Designation	Nature of Duties Performed
IIRS, Dehradun	July 2017 – May 2018	Project Trainee	Damage Detection of Cultural Monuments through UAV image processing
Yukti	August 2014 -June 2016	GIS Analyst	Worked on projects: Beautification of Vrindavan Parikrama Marg, Water Body Conservation in Braj Region. Work did: Created GIS Database, Site Suitability Analysis for various services on parikrama Marg, Change Detection of land use and land cover, Study of Urban Sprawl

7. TEACHING AND ACADEMIC ENGAGEMENT:

	Typology	Institution/ Person	Topics
1.	Short lecture and Lab exercise	Jamia Millia Islamia, New Delhi	To visualize depth of different features through two overlapped photographs using a pocket stereoscope
2.	Delivered hands-on training	Chaksu and Phagi block in Rajasthan	EPRIS mobile app (Asset Mapping)

3.	Prepared lectures	Dr. Poonam Seth Tiwari, IIRS, Dehradun	<ul style="list-style-type: none"> Earth observation (E.O.) data for earthquake-related damage Pan-sharpening Rule-based Classification
4.	Prepared Lab exercises	Dr. Poonam Seth Tiwari, IIRS, Dehradun	<ul style="list-style-type: none"> Georeferencing using ArcGIS Digitization using ArcGIS and ERDAS Imagine Buffer Analysis using ArcGIS Image Interpretation using ERDAS Imagine Supervised Classification using ERDAS Imagine Texture Analysis using ERDAS Imagine Change Detection using ERDAS Imagine
5.	Helped in Ph.D. Thesis	Sunanda Kapoor	Urban pattern changing in Mathura district
6.	Helped in M. Tech Thesis	Navneet Kaur	Explorative Advanced Image Processing and Analysis Tool Design to support prevalent Remote Sensing Applications using MATLAB
7.	Helped in B. Tech Thesis	Tanu Gururai	Rapid Building Damage Assessment using Very High Resolution (VHR) Satellite Image

8. SCHOLARSHIP:

- Merit cum mean scholarship from Banasthali Vidyapith, Rajasthan, during M. Tech.

9. FACULTY DEVELOPMENT PROGRAM ATTENDED:

	Typology	Topics	Conducted By
1.	1-week International Faculty Development Program	Recent Trends in Computer Science & IT	Raj Kumar Goel Institute of Technology, Ghaziabad
2.	5-Days Faculty Development Program	Machine Learning and its applications using Python	Ajay Kumar Garg Engineering College-MCA
3.	1-week International Faculty Development Program	Mathematical Modeling & Numerical Techniques	Kakatiya Institute of Technology and Science, Warangal
4.	1-week International Faculty Development Program	Engineering Physics and Materials Science	Chaitanya Bharathi Institute of Technology, Hyderabad
5.	5-Days Faculty Development Program	Recent Trends and Innovation in Electronics Engineering	IIMT College of Engineering, Greater Noida

10. PROFESSIONAL TRAINING, SHORT TERM COURSES, AND WORKSHOPS ATTENDED:

	Typology	Topics	Conducted By
1.	6-weeks MOOC	Going places with spatial analysis	Esri
2.	6-weeks MOOC	Imagery in Action	Esri
3.	1-day online workshop	Remote Sensing for Lunar Science	IIRS, Dehradun, Uttarakhand
4.	1-week course	Master Class on Machine Learning	Pantech Solutions
5.	6 hrs	Webinar series on 'SAR Data Processing'	IIRS, Dehradun, Uttarakhand
6.	1-week course	Advances in SAR-Polarimetry & Interferometry	IIRS, Dehradun, Uttarakhand
7.	1-week course	Remote Sensing of Land Degradation	IIRS, Dehradun, Uttarakhand
8.	1-week course	Understanding of Coastal Ocean processes using Remote Sensing and Numerical Modelling	IIRS, Dehradun, Uttarakhand
9.	2-week course	Application of Geoinformatics in Ecological Studies	IIRS, Dehradun, Uttarakhand
10.	1-week course	Geospatial inputs for enabling master plan formulation	IIRS, Dehradun, Uttarakhand

11.	1-week course	Remote sensing applications in agricultural water management	IIRS, Dehradun, Uttarakhand
12.	1-week course	Satellite Photogrammetry and its applications	IIRS, Dehradun, Uttarakhand
13.	1-day workshop	Hydro-metrological Disaster Management	IIRS, Dehradun, Uttarakhand
14.	1-day workshop	Basic concepts of Field Geology	Dept. of Geology, Banasthali University
15.	1-week course	Close range photogrammetry and Terrestrial laser scanning	IIRS, Dehradun, Uttarakhand
16.	7-week course	GIS and Global Navigation Satellite System (GNSS)	IIRS, Dehradun, Uttarakhand
17.	1-week course	Hyperspectral Remote Sensing and its Applications	IIRS, Dehradun, Uttarakhand
18.	4-week course	Remote Sensing and Digital Image Analysis	IIRS, Dehradun, Uttarakhand
19.	3-days course	Entrepreneurship Awareness Camp	Coordinated by Moradabad Institute of Technology, Moradabad and Sponsored by National Science and Technology Entrepreneurship Development Board (NSTEDB) Department of Science and Technology, Government of India
20.	4-week training	C & I (Thermal Power Station)	NTPC, Dadri
21.	19-days training	Introduction of PDH/SDH based optical transmission system, Product Management cum Pre-Sales Management and Fundamental on Installation/Operation and Maintenance	Ordyn, Delhi
22.	23-days training	Embedded System	CETPA InfoTech Pvt. Ltd.

11. PROFESSIONAL MEMBERSHIP:

- Life member of Indian Society of Remote Sensing (ISRS), Membership No. L-5317
- Individual membership of International Society for Photogrammetry and Remote Sensing (ISPRS)
- IEEE student member: 97502946

12. ACHIEVEMENTS:

- 2nd place in M. Tech (Remote Sensing)
- Won 1st prize in Cardmaking competition organized by COSMOS 2016, Banasthali University.
- Certificate of Achievement for "ISO 9001:2000 Internal Quality Auditor Training Program" organized by India International Group and Moradabad Institute of Technology, U.P. held on 25-30 March 2009.

13. ADMINISTRATIVE ROLES AND NON-ACADEMICS:

- Worked as Volunteer in 38th IIG Conference organized by Banasthali University held on 18- 20 March 2017
- Worked as Coordinator of Decoration Committee in COSMOS 2016, Banasthali University.
- Worked as an active member of National Social Service (NSS) during B. Tech (2005-2009) at Moradabad Institute of Technology, Moradabad.
- Worked as Coordinator of Inauguration Committee in Annual Fest of B. Tech in 2009 at Moradabad Institute of Technology, Moradabad.

14. SUBJECT INTERESTS AND TEACHING COMPETENCY:

- Remote Sensing: Optical, Thermal, Microwave, and Hyperspectral Remote Sensing
- Digital Image Processing (DIP) and its application in Remote Sensing
- Photogrammetry
- GIS concepts
- Spatial modelling and management
- Global positioning system (GPS)

- Various applications of Remote Sensing and GIS
- Environmental Studies: Basics and Principles
- Environmental Impact Assessment (EIA): Basic concepts, process, and role of Remote Sensing and GIS in EIA.
- Project Management
- Research Methodology: Data analytics and Decision Science

Place: Sonapat, Haryana

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Date: