# CURRICULUM VITAE

**KAILASH CHANDRA TIWARI**

# MAJOR ACHIEVEMENTS/CONTRIBUTIONS

- **Setting a Start-up** under the GOI National Innovation and Start Up initiative. The Start-up is based on a DST project. The **name of the Start-up is, GESEME which stands for *Geo-Enabled Socio-Economic Matchmaking Effort***. The portal is available at www.geseme22.com and the android and ios apps are available at play store.

- As part of pollution team of ATULYA – GANGA (an NGO of Military Veterans with a plan to spread awareness amongst general public over next ten years), **collected 224 water samples in 2021 along the entire stretch of Ganga from Gomukh to Ganga-Sagar. Followed it up with second annual testing of 49 hotsopts in 2022**. Plan to collect 49 samples in 2023 **on the same days as the days of pass of Sentinel 2A and 2B satellite** over these hot-spots and **intend to develop algorithms for satellite monitoring of these hotspots**.

- As part of a project under NMHS, **identified and reported two vulnerable Glacial Lakes in Himachal and one in Uttarkhand**.

- Working with Indian Army (Corps of Engineers) for **development of an autonomous underwater vehicle with navigation capability for profiling and bearing capacity estimation of river bed**.

- **Indian Society of Geomatics, President's Appreciation Medal** for Contribution to the Society, 2021.

- Nominated **member of the National Organizing Committee for the second United Nations World Geospatial Congress UNWGIC** vide Department of Science and Technology, GOI order dated 22 September 2021. The 2nd UNWGIC event was successfully organised at Hyderabad from 10 – 14 Oct 2022.

- Nominated **member of the State Level Environment Impact Assessment Authority, National Capital Territory** (NCT) of Delhi vide gazette Notification of Central Government of India dated 06 September 2021.

- Awarded **National Geospatial Chair Professor of Department of Science and Technology, GOI for 2018-23**. Objectives being promotion of Geospatial education in India, addressing issues of multidisciplinary nature of Geospatial Education etc.

- **Prepared Technology Pillar Document and Compiled India Country Report 2020 for IGIF** (Integrated Geospatial Information Framework) of United Nations Group of Experts on Geospatial Information Management (UNGGIM) (Under the aegis of DST, GOI).

- Progressed and **obtained the approval of AICTE – All India Board of Post Graduate Education and Research for inclusion of Geospatial/Geo-informatics as a subject** in GATE and NET Exams. **Geomatics now stands included in GATE 2022**.

- **Founder of a Multidisciplinary Centre for Geo-informatics at Delhi Technological University** and commenced **AICTE approved M.Tech (Geoinformatics), Ph.D**.

- Progressing/completed **research projects with DST, ISRO, NMHS etc. Total value of the research projects Rs 1,71,28,798**/-. Completed/progressing consultancy projects with Delhi Govt./PWD/CEO Agra/Mathura consultancy projects worth Rs 5,54,26,000/-.

## 1. Educational Qualifications

| Examination/ Degree | Name of Degree /Cert | Board/ University | Institute | Subjects/ Specialization | Year of Passing | Division / CGPA | Marks in % |
|---|---|---|---|---|---|---|---|
| **Secondary** | All India Secondary School Certificate Exam | CBSE | GHSS Wimberlygunj, A & N Islands | PCM, English, Hindi, Social Sciences | 1980 | Ist | 76.25% |
| **Higher Secondary** | Sr Secondary School Certificate Exam | CBSE | Central School Port Blair | PCM, English, Hindi | 1982 | Ist | 74 % |
| **Graduation** | Bachelor of Engineering | Allahabad University | MLNIT, Allahabad | Civil Engg | 1986 | Ist | 68.24 %, |
| **Post Graduation** | ME (Civil | Roorkee University | Roorkee University | Computer Aided Design | 1999 | Ist | 73.45 %, |
| **Ph.D.** | Ph.D | IIT Roorkee | IIT Roorkee | | 2007 | NA | NA |
| **Any other** | PG Diploma | Delhi University | Delhi School of Economics | International Marketing | 1987 | Ist | 62.5 %, |

## 2. Experience in the field of Higher Education in teaching and research in a University / Institution of repute and / or at the under-graduate and post-graduate level.

| SN | University/Institution* | Post | From | To | Total |
|---|---|---|---|---|---|
| 1 | Multidisciplinary Centre for Geoinformatics Delhi Technological University, Delhi | Professor | 9th Mar 21 | Till 30 Nov 23 | 2 Years, 7 months & 21 days on 30 Nov 23 |
| 2 | Ch. Braham Prakash Govt. Engineering College, Jaffarpur, Delhi (NetaJi Subhash University of Technology (NSUT) West Campus | Principal and Professor | 12 Mar 18 | 8th Mar 21 | 3 years less 04 days |
| 3 | Delhi Technological University | Professor | 01 May 17 | 11 Mar 18 | 10 Months |
| 4 | Asian Institute of Technology, Bangkok, Thailand | Visiting Professor, | 07 Jan 2017 | 30 Apr 17 | 4 Months |
| 5 | Delhi Technological University | Professor | 31 Aug 12 | 06 Jan 17 | 4 Years 4 Months |
| 6 | Bharati Vidyapeeth's College of Engg, Delhi | Principal & Professor | 12 Feb 11 | 30 Aug 12 | 1 Year 7 Months |
| 7 | Instructor (Army Training Centers) | Instr Class B | 05 Apr 2003 | 07Jul 2005 | 2 years |
| | **Total Experience: Professor (12 years 8 months), Army (total 23 years, Instructor -2 years** | | | | |

**3.** **Details of research publications in peer-reviewed / referred international research journals and / or published quality books in a recognized discipline, referred for study in higher education at the National / International level.**

**3.1** **Research publications in peer-reviewed / referred international research journals / UGC Care listed:**

| SN | Title of the publication | Name of the international journal | Month and year of publication |
|----|----|----|----|
| 1 | Attached at the End | | |

**3.2** **Details of published quality books / book chapters in a recognized discipline, referred for study in higher education at the National / International level:**

| SN | Title of the book/ book chapters | Name of the publisher | Institutions where referred for study |
|----|----|----|----|
| 1 | **Book -** Object Based Classification Using Remote Sensing Data | AKN Publishers | Delhi Technological University |
| 2 | **Book -** Addressing Environmental Challenges Through Spatial Planning | IGI Global publishers | Neta Ji Subhash University of Technology |
| 3 | **Book Chapter -** Mapping of glacial lakes and glacial lake outburst flood in Lahul and Spiti district using remote sensing and GIS | Taylor and Francis | - |
| 4 | **Book Chapter -**Mapping of Glacial Lakes and Glacial Lake Outburst Flood in Kinnaur District Himachal Pradesh Using Remote Sensing and GIS | IGI Global publishers | Bharati Vidyapeeth's College of Engineering, Delhi |
| 5 | **Book** - Introduction to Information Book - Technology | BEG & Center, Army | BEG & Center, Army |
| 6 | **Book** - Engineer Geographical Information system, | BEG & Center, Army | BEG & Center, Army |
| 7 | **Book** - Accounting in Army | BEG & Center, Army | BEG & Center, Army |
| 8 | **Book** - Preservation and maintenance of equipment | BEG & Center, Army | BEG & Center, Army |

4. **Details of administrative experience in the field of Higher Education not below the rank of Professor and Head of the Department in a University/ Institute / Principal/ Director of a Technical Institute / Head of a National / International Institution of Advanced Learning (At least 5 years administrative experience).**

| SN | Post | Period From __ to ___dates and duration) | Name of the University / Colleges / Institution & location |
|---|---|---|---|
| 1 | Head of the Department in a University/ Institute | 05 Mar 19 - Till date | Multidisciplinary Centre for Geoinformatics, Delhi Technological University, Delhi |
| 2 | Principal / Director of a Technical Institute | 12 March 2018 to 8th Mar 21 | Ch. Braham Prakash Govt. Engineering College, Jaffarpur, Delhi |
| | | 12 Feb 11 to 30 Aug 2012 | Bharati Vidyapeeth College of Engg under GGSIPU, Delhi |
| 3 | Dean (Chief Project and Estate Officer) | 14 Feb 2013 to 08 Sep 2017 | Delhi Technological University |
| 4 | Director | Nil | Nil |
| 5 | Head of a National/ International Institution of Advance Learning | Nil | Nil |
| 6 | National Innovation and Start Up Coordinator | 2022 – Till date | Delhi Technological University |
| 7 | Served in the Indian Army Corps of Engineers till the rank of Colonel | Jul 1988 – Feb 2011 | Indian Army, Corps of Engineers posted at different locations and different operations |

5. **Details of major research projects executed by the Candidate (At least One).**

| SN | Title of the project | Project Value (Rs) | Granting agency | Date of commencement | Date of Completion |
|---|---|---|---|---|---|
| 1 | Pan India networked Institutional support for post COVID revival of socioeconomic activities in Agriculture and Construction Sectors | 28,49,990/- | Department of Science and Technology | 2021 | 2022 |
| 2 | GLOF studies in Uttarakhand and Himachal | 35,43,408/- | National Mission on Himalayan Studies | 2018 | 2021 |
| 3 | Detection and Identification of engineered surfaces and Objects using Hyperspectral data | 35,02,400/- | Department of Science and Technology | 2016 | 2019 |
| 4 | Mapping Impervious Surfaces from Temporal Multisensor Multiresolution Data and its Area Estimation Using Super resolution | 20,00,000/- | Space Applications Centre, Ahmedabad | 2016 | 2018 |
| 5 | An assessment and impact of urbanization in South Delhi on environmental quality and disaster management using remote sensing and GIS | 10,93,000/- | Department of Science and Technology | 2015 | 2017 |

**6.** **Details of experience of working with international bodies or international exposure through participation in workshops, seminars or conferences held outside the country.**

**6.1** **Experience of working with International Bodies:**

| SN | Name of the international body | Nature of experience |
|---|---|---|
| 1 | UNWGIC (United Nations World Geospatial Information Congress) | National Committee Member of DST for organizing 2nd UNWGIC at Hyderabad in 2022 |
| 2 | Asian Institute of Technology, Bangkok, Thailand (07 Jan 2017 - 30 Apr 17) | Visiting Professor (MHRD Sponsored) |

**6.2** **International exposure through participation in workshops, seminars or conferences held outside the country:**

| Sr. No. | Title of Workshop/Seminar/Conference | Month & Year | Place |
|---|---|---|---|
| 1 | Conduct of a Seminar for Thailand Navy on 'Military Applications of Remote Sensing and GIS' | Apr 2017 | Bangkok |
| 2 | Detection of Shallow Buried Non-Metallic Landmines in Microwave X-Band Region Using Multipolarization Data. SPIE Defence Security and Sensing Conference 2010 (USA). | Apr 2010 | Orlando, USA |
| 3 | Subpixel Target Detection and Enhancement in Hyperspectral Images. SPIE Defence Security and Sensing Conference 2010 (USA). | Apr 2010 | Orlando, USA |

**Note: Please attach additional sheets in similar proforma, if necessary.**

**7.** **Experience of organizing events such as workshops, seminars, conference at an international level within the country in the field of higher education.**

| Sr. No. | Title of workshop / seminar / conference | Month & Year | Place | Role assigned (to you) in organizing the event |
|---|---|---|---|---|
| 1 | Leveraging Computer Vision for Agricultural Applications | 20 Nov 23 | DTU Delhi | *Organizer in collaboration with International Rice Research Institute* |
| 2 | 21 Days Summer/Winter School in Geospatial technologies | 15 Nov to 09 Dec 2021 | DTU Delhi | *Organiser – DST Sponsored* |
| 3 | 3 Days Geo-innovation Challenge School in Geospatial technologies | 07 Feb – 09 Feb 2022 | DTU Delhi | *Organiser – DST Sponsored* |
| 4 | Military Applications of remote Sensing and GIS using Remote Sensing | Apr 2017 | AIT Thailand | *Conducted as a visiting faculty to AIT Thailand* |
| 5 | *There are several other seminars, conferences and workshops organized both in Army and at DTU* | | | |

**8. Demonstrated experience in leadership**

| Sr. No. | Brief description of nature of leadership activity and role played | Documented evidence of achievements in leadership |
|---|---|---|
| 1 | As national Geospatial Chair Professor of DST, GOI, led the Geospatial Community to include Geomatics in the GATE Exam | GATE Exam has Geomatics as a subject wef 2022 |
| 2 | Established a Multidisciplinary Centre for Geoinformatics and instituted Ph.D and AICTE approved M.Tech Course | May be seen at www.dtu.ac.in |
| 3 | Ch Brahaprakash Govt Engg College was a Govt College with no Autonomy. Convinced the Delhi State Govt to make it a autonomous campus of Neta Ji Subhash University of Technology | May be checked on the Website |
| 4 | Evicted 21 Flats under unauthorized occupation in DTU over two years without in Court Cases | Details with Registrar, DTU |
| 5 | Developed along with students a Training Simulator for NSG | Award Certificate available |
| 6 | Served in the Indian Army for 23 years, delayed picking up the rank of Colonel to complete PhD from IIT Roorkee and took PMR to pursue Research career while still open for further promotions | - |
| 7 | During Insurgency – convinced villagers to work against the Undergrounds | - |
| 8 | Constructed 31 Operational Shelters in a period of 60 days in High Altitude Area along China border under subzero temperatures in 1991 by proper resource management | - |

**9. Experience of working with the Statutory Authorities / forums of a university / Institute, such as Board of Studies, Academic Council, Management Council, Executive Council of Board of Management, Senate, etc.**

| SN. | Institution* | Statutory forum / authority and position | From | To | Total (in years and months) |
|---|---|---|---|---|---|
| 1 (a) | Principal and Professor | Ch. Braham Prakash Govt. Engineering College, Jaffarpur, Delhi (now NetaJi Subhash University of Technology (NSUT) West Campus | 12 Mar 18 | 8th Mar 21 | 3 years less 04 days |
| (b) | | Bharati Vidyapeeth's College of Engg, under GGSIPU, Delhi | 12 Feb 11 | 31 July 2012 | 1 Year 6 Months |
| 2. | Head of the Department | Multidisciplinary Centre for Geoinformatics, Delhi Technological University, Delhi | 05 Mar 19 | Till date | 3 years |
| 3 | Chairman, board of Studies | do | 31 May 23 | Till date | 5 months |
| 4 | Member, Board of Studies | Delhi Technological University, Delhi | 01 Aug 12 | Till date | 10 Years |
| 5 | Dean of Faculty | None | | | |
| 6 | Member of Academic Council | Delhi Technological University, Delhi | 14 Feb 13 | 11th Mar 18 | 5 years 01 month |

| 7 | Member of Executive Council | Member of BOG at NSUT (as Principal NSUT West Campus | 15 Oct 20 | 8th Mar 21 | 06 months |
|---|---|---|---|---|---|
| 8 | Member of Professional/ Academic Bodies | Departmental research Committee (Civil) | 01 Jan 22 | 31 Dec 22 | 12 months |
| | | Chairman Departmental Research Committee (MCG) | 31 May 23 | Till date | 5 months |
| | | BOS and AC of Mangalayatan University, UP | Aug 2017 | Jul 2021 | 4 years |
| | | BOS and AC of Kolhapur Institute of Technology's College of Engineering (Autonomous), Kolhapur | Sep 2018 | Till date | 5 years |
| | | BOS - Madhav Institute of Science and Technology, Gwalior | May 2020 | Till date | 2 Years 04 months |
| 9 | Others(Specify) | Chief Project and Estate Officer, Delhi Technological University | 14 Feb 2013 | 08 Sep 2017 | 4 years and 06 months |

10. **Demonstrable experience of handling Quality issues, assessment and accreditation procedures, etc.**

| SN | Area | Institution | Duration (From __to___) and total period | Achievements |
|---|---|---|---|---|
| 1. | Quality issues | Delhi Technological University | Member DTU IQAC Cell since 2021 | Audit of Various Departments of DTU |
| 2. | Assessment and accreditation procedures | -do- | Member Civil Department NBA and NAAC Cell 2021-22 | NBA Accreditation to three M.Tech Courses of CED |
| 3. | Any other issue (Specify) | - | - | - |

11. **Experience of guiding Ph.D. students**

| SN | Name of the Student | Thesis title | Period of Guideship | Status of Ph.D award |
|---|---|---|---|---|
| 1 | Dr Deepti | Alternative Approaches to Target Detection | 2012-2017 | Awarded |
| 2 | Dr Rubeena Vohra | Object based Classification Using Multi-Resolution Image Fusion | 2014-2019 | Awarded |
| 3 | Dr Amrita Bhandari | Target Detection and Enhancement Using Super-resolution | 2014-2020 | Awarded |
| 4 | Dr Dwijendra Pandey | Detection and Identification of Engineered Surfaces using Imaging Spectrometry | 2017 - 2020 | Awarded |

| 5 | Dr Shalini Gakkhar | Development of spectral – spatial strategies for detection of Engineered Objects Using Hyperspectral Data | 2017 - 2021 | Awarded |
|---|---|---|---|---|
| 6 | Mr Anupam Srivastava | Integrated Analysis of Disaster Management in Western Himalayan Region | 2014 - 2016 | Submission Due |
| 7 | Mr Sanjay Singh | Object Detection Using Fusion of Multiband Microwave Data | 2015 - 2023 | Submission Due |
| 8 | Ms Jaya Yadav | Investigations on Improvement of Rainfall Prediction | SRC 10/04/23 | SRC Complete |
| 9 | Ms Dyvavani K | Assessment and Mitigation Strategies for Urban Heat Island in Delhi region | | SRC Complete |
| 10 | Mr Avinash | **Tentative** – EO Satellite based Assessment of River Water Quality Parameters | SRC Due Dec 2023 | SRC Due |
| 11 | Mr Anand Sebastian | **Tentative** – AI/ML based Assessment of Surface Water Quality Parameters | SRC Due June 2023 | SRC Due |

**12. Experience at the State or National or International level in handling youth development work such as organizing student-centric activities for their all-round development and for providing them rich campus life.**

| SN | Nature of Activity/ Event | Institution | Duration (From __to __) and total period | Achievements |
|---|---|---|---|---|
| 1. | National Innovation and Start Up Coordinator | Delhi Technological University | 2022 – Till date | 5 New start ups |
| 2. | NCC | Delhi Technological University | 2018- 2021 | Regular selections of students in SSB for Defense Services |

13. Any other information (Fellowships, Awards, International Collaboration etc.)

| Honours/ Awards & Fellowships for Outstanding Work | | | | |
|---|---|---|---|---|
| SN | Name of Award/ Fellowship etc. | Elected/ Honorary Fellow | Awarded by | Year of Award |
| 1. | President's Appreciation Medal for Contribution to the Society. | Selected | Indian Society of Geomatics | 2021 |
| 2. | Member of the State Level Environment Impact | Nominated | Central Govt | Vide gazette Notification dt 06 September |

| | | | | 2021 |
|---|---|---|---|---|
| | Assessment Authority, National Capital Territory (NCT) of Delhi. | | | |
| 3. | National Geospatial Chair | Selected | DST | 2017-2023 |
| 4. | Best Paper Award | Selected | Corps of Engineers, Army | 2006 |
| 5. | Bewoor Essay Prize winner | Selected | do - | 2004 |
| 6 | Army Service Medals | Honorary | do | 1988 to 2010 |
| 6 | HMT award of Merit | Selected | HMT Tools Co | 1980 |
| 7 | National Scholarship for Meritorious Students | Selected | A&N Administration | 1980 |

| Membership of Societies and their Names | |
|---|---|
| **SN** | **Membership of Societies and their names** |
| 1 | Fellow and Charted Engineer of Institution of Engineers (F-1271837) |
| 2 | SPIE Inc, USA-Life Membership No 3091206, Life(Since 2011) |
| 3 | IEEE Geoscience Society Membership No – 94499420, Annual(Since 2011). |
| 4 | Indian Society of Remote Sensing, Membership ID - L-4950, Life(Since 2017) |
| 5 | Indian Society of Geomatics, Membership ID - ISG L-2008, Life(Since 2017) |
| 6 | Institution of Military Engineers, College of Military Engineering, Pune, Life (Since 1990) |
| 7 | United Service Institution, New Delhi, Life (Since 2012) |
| 8 | Institute of Defence Services and Analysis, Life (Since 2012) |

14.

## IV. Skills

| | | |
|---|---|---|
| **Technical Skills –** (Please indicate briefly the level of your proficiency against each of the areas and items indicated below) | | |
| 1. | Openness towards technology and a deep conviction regarding its potential applications in a knowledge-based setting; | Very High (9/10) |
| 2. | Level of comfort in the use of technology; | Very High (9/10) |
| **Managerial Skills –** | | |
| 1. | Ability to anticipate issues and problems and to prepare advance strategic plans; | Very High (8/10) |

| | | |
|---|---|---|
| 2. | Ability to generate resources and to allocate the same appropriately; | Very High (8/10) |
| 3. | Capacity to work effectively under pressure and to manage work within tight deadlines; | Very High (10/10) |
| 4. | Understanding of financial management including revenue generation, planning and fiscal control; | Very High (7/10) |

**Alignment with corporate objectives and State as well as National level priorities –**

| | | |
|---|---|---|
| 1. | Ability to identify the needs of the communities in key sectors; | Very High (8/10) |
| 2. | Understanding of the challenges before the Nation and to indicate how Higher Education can respond to developmental needs; | Very High (8/10) |
| 3. | Understanding of curriculum development issues, especially those relating to wide participation and social inclusion; | Very High (9/10) |

**Leadership skills -**

| | | |
|---|---|---|
| 1. | Ability to motivate a diverse group of stakeholders; | Very High (8/10) |
| 2. | Desire to further the mission and goals of the organization; | Very High (9/10) |
| 3. | Ability to think strategically and innovatively and to maintain a broad perspective; | Very High (9/10) |
| 4. | Ability to lead by personal example with openness to new ideas and a consultative approach in implementation of the same; | Very High (9/10) |

**Interpersonal communication and collaborative skills-**

| | | |
|---|---|---|
| 1. | Details of experience in developing and executing National and International collaborative arrangements; | Very High – National (8/10), International (2/10) |
| 2. | Ability to interact effectively and persuasively with a strong knowledge-base at senior levels and in large forum as well as on a one-to-one basis; | Very High (8/10) |
| 3. | Evidence of being an active member of professional bodies and associations in relevant fields | Very High (8/10) |

Date : **01 Oct 24**

Place: **DTU Delhi**                                                        **(Name: Kailash Chandra Tiwari )**

## PUBLICATIONS (Refer Ser 3.1 of Application Form)

| International/National Peer Reviewed Academic journals: | | | | | |
|---|---|---|---|---|---|
| SN | Date | Title | Name of journal | Refereed journal or not | Number of Citations (where possible) |
| 1 | 2022 | Potentially Dangerous Glacial Lake Risk Mapping and Assessment in Satluj River Basin, Himachal Pradesh Using Remote Sensing and GIS. | Lecture Notes in Civil Engineering, vol 229. Springer, Singapore. | Yes | - |
| 2 | 2022 | Glacier–glacial lake changes and modeling glacial lake outburst flood in Upper Ganga Basin, India. | Modeling Earth Systems and Environment | Yes | - |
| 3 | 2021 | Comparative assessment of target detection algorithms for urban targets using hyperspectral data- Photogrammetric Engineering & Remote Sensing | American Society of Photogrammetry and Remote Sensing | Yes | 11 |
| 4 | 2021 | Spectral–spatial urban target detection for hyperspectral remote sensing data using artificial neural network." | The Egyptian Journal of Remote Sensing and Space Science | Yes | 8 |
| 5 | 2021 | Development of Spectral Index for Road Condition and Roof Deterioration Analysis using AVIRIS-NG and Field Hyperspectral Data | Journal of Photogrammetry, Remote Sensing and Geo-information Science | Yes | 8 |
| 6 | 2021 | Spectral Library Creation and Identification of Significant Wavelengths for Urban Built-Up Surfaces and Materials using Field Spectrometry. | Arabian Journal of Geosciences | Yes | 9 |
| 7 | 2020 | Extraction of Urban Built-up Surfaces and Its Subclasses using Existing Built-up Indices with Separability Analysis of Spectrally Mixed Classes in AVIRIS-NG Imagery | Advances in Space Research | Yes | 7 |
| 8 | 2020 | Feature Identification and Extraction of Urban Built-up Surfaces and Materials in AVIRIS-NG Hyperspectral Imagery. | Geocarto International | Yes | 10 |
| 9 | 2020 | Performance evaluation and comparative assessment of Sentinel-2B, Landsat-8 and AVIRIS-NG sensor imageries for extraction of road and roof surfaces using different algorithms. | Journal of Applied remote Sensing | Yes | 8 |

| | | | | | |
|---|---|---|---|---|---|
| 10 | 2020 | New Spectral Indices for Detection of Urban Built-up Surfaces and its subclasses in AVIRIS – NG Hyper spectral Imagery | Geocarto International | | 6 |
| 11 | 2020 | A Euclidean Distance based Super Resolution method for Sub Pixel target detection in Hyperspectral Image. | GIS Business | Yes | 12 |
| 12 | 2020 | Comparative Analysis of SVM and ANN Classifiers using Multilevel Fusion of Multi-Sensor Data in Urban Land Classification | Sensing and Imaging, Springers | yes | 4 |
| 13 | 2019 | Multisensory Decision Level Fusion for Improvement in Urban Land Classification | Recent Advances in Computer Science and Communications | yes | 01 |
| 14 | 2019 | Loss of target information in full pixel and subpixel target detection in hyperspectral data with and without dimensionality reduction. | Evolving Systems.1-16. | Yes | 2 |
| 15 | 2019 | Spatial shape feature descriptors in classification of engineered objects using high spatial resolution remote sensing data. | Evolving Systems. | Yes | 2 |
| 16 | 2018 | Detection and Identification of Camouflaged Targets using Hyperspectral and LiDAR data. | Defence Science Journal | Yes | 02 |
| 17 | 2017 | Identification of most useful spectral ranges in improvement of target detection using hyperspectral data" | Egyptian Journal of Remote Sensing and Space Science, Elsevier. | Yes | 01 |
| 18 | Oct 2017 | Parameters effecting detection in VNIR and SWIR range" | Egyptian Journal of Remote Sensing and Space Science, Elsevier, | Yes | 01 |
| 19 | 2017 | Object based classification using multi-sensor data fusion and support vector algorithm | International Journal of Image and data Fusion, | Yes | 01 |
| 20 | 2015 | A Review and Assessment of Fusion Algorithms on Gray Scale Images. | International Journal of Electronics, Electrical and Computational System | Yes | NA |
| 21 | Jan,2013 | Subpixel Target Enhancement in Hyperspectral Images | Defence Science Journal (DSJ) | Yes | 15 |

| 22 | 2013 | Military target detection using spectrally modelled algorithms and independent component analysis. | Optical Engineering | Yes | 13 |
|---|---|---|---|---|---|
| 23 | 2012 | Shallow buried Non-metallic landmine detection and estimation of its depth in microwave X-band | International Journal of Remote Sensing Applications, | Yes | 27 |
| 24 | 2012 | Development of a model for detection and estimation of depth of Shallow buried Non-metallic landmine in microwave X-band. | International Journal of Remote Sensing Applications | Yes | 25 |
| 25 | 2011 | An Assessment of Independent Component Analysis for Detection of Military Targets from Hyperspectral Images | International Journal of Applied Earth Observations and Geo-information. | Yes | 58 |
| 26 | 2009 | Shape Recognition of Shallow Buried Metallic Objects at X-Band using ANN and Image Analysis Techniques | Progress in Electromagnetics Research | Yes | 7 |
| 27 | 2009 | Critical Analysis of Polarization Transforms with Image Analysis Techniques for Detection of Shallow Buried Non-Metallic Landmines at X-band | Progress in Electromagnetics Research | Yes | 5 |
| 28 | 2008 | Development of a Model for Detection and Estimation of Depth of Shallow Buried Non-Metallic Landmine at Microwave X-Band Frequency | Progress in Electromagnetics Research | Yes | 14 |
| 29 | 2001 | Neural Network Parameters Affecting Image Classification | Defence Science Journal- Special Issue DESIDOC, DRDO India | Yes | 3 |
| 30 | 2000 | Effect of Neural Network Variables on Image Classification | Asian Pacific Remote Sensing and GIS Journal | Yes | 10 |

### Articles in Popular Magazines

| SN | Date | Title | Name of Magazine/ Newspaper |
|---|---|---|---|
| 1 | 2009 | Sensing, GIS and GPS Technologies in Future Civil Engineering Construction & Planning", Sapper Magazine | Indian Military Engineers |
| 2 | 2004 | GIS for Corps of Engineers, Indian Army", Sapper Magazine, Sapper Magazine | Indian Military Engineers. (Third BEWOOR ESSAY Prize winner). |

**Presentations in Conferences:**

*International*

| SN | Date | Title of Conference or Institution | Title/Subject of presentation (if made) |
|----|------|-----------------------------------|------------------------------------------|
| 1 | 2017 | Asian Conference on Remote Sensing (ACRS), Oct 23-27, 2017 Delhi, India. | Detection and Identification of targets using fusion of hyperspectral and LiDAR data" |
| 2 | 20 Apr 2016 | SPIE 9845, Optical Pattern Recognition XXVII, 984507 | Performing target specific band reduction using artificial neural networks and assessment of its efficacy using various target detection algorithms |
| 3 | 30 April 2016 | SPIE 9880, Multispectral, Hyperspectral, and Ultraspectral Remote Sensing Technology, Techniques and Applications VI, 98802 | An assessment of effects of various parameters on performance of target detection using hyperspectral data |
| 4 | 30 April 2016 | SPIE Vol. 9880, Multispectral, Hyperspectral, and Ultraspectral Remote Sensing Technology, Techniques and Applications VI, | Multisensor Multiresolution Data Fusion for Improvement in Classification |
| 5 | 30 April 2016 | SPIE Vol. 9880, , Multispectral, Hyperspectral, and Ultraspectral Remote Sensing Technology, Techniques and Applications | A comparative assessment of various super-resolution techniques in target detection and enhancement using hyperspectral data |
| 6 | 30 April 2016 | SPIE 9845, Optical Pattern Recognition | Performing target specific band reduction using artificial neural networks and assessment of its efficacy using various target detection algorithms |
| 7 | 18 April 2016 | SPIE 9840, Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery | A study of neural network parameters for improvement in classification accuracy |
| 8 | September 2015 | International Journal of Electronics, Electrical and Computational System I | Review and Assessment of Fusion Algorithms on Gray Scale Images |
| 9 | September 2015 | International Journal of Engineering Technology, Management and Applied Sciences | A Review of Spectral Unmixing Techniques in Target Detection |
| 10 | Apr 2010 | SPIE Defence Security and Sensing Conference 2010 (USA). | Detection of Shallow Buried Non-Metallic Landmines in Microwave X-Band Region Using Multipolarization Data |
| 11 | 2010 | SPIE Defence Security and Sensing Conference 2010 (USA). | Subpixel Target Detection and Enhancement in Hyperspectral Images |
| 12 | 2006 | SPIE Asia Pacific Remote Sensing Conference being held under the auspices of National Institute of Oceanography, Panaji, Goa | Detection and estimation of depth of shallow buried non-metallic landmines using signal and image analysis techniques in microwave region in X band |

*National*

| SN | Date | Title of Conference or Institution | Title/Subject of presentation (if made) |
|---|---|---|---|
| 1 | 2022 | 1st International Conference on River Corridor Research and Management. 25/02/2021 – 27/02/2021 – IIT Jammu. | Potentially dangerous glacial lake risk mapping and assessment in Satluj river basin, Himachal Pradesh using remote sensing and GIS |
| 2 | 2019 | 4th Himalayan Researchers Consortium (HRC) 2019. 26/09/2019 – 27/09/2019 – WII, Dehradun. | Glacial Lakes and Glacial Lakes Outburst Floods in Himachal Pradesh, India using Remote Sensing and GIS |
| 3 | 2019 | National Seminar-Cum-M&E Workshop. 04/02/2019 – 07/02/2019 – GBPNIHESD, Almora, Uttarakhand. | Inventory of Glacier and Glacial Lake Outburst Flood (GLOF) Study in the Western Himalaya |
| 4 | 2019 | IIT Mandi, H.P - 18/04/2019 – 20/04/2019 – | Glacial Lakes and Glacial Lakes Outburst Floods in Himachal Pradesh, India using Remote Sensing and GIS International Workshop on Climate Change and Extreme Events in the Himalayan Region. |
| 5 | 2015 | National Conference on Recent Advances in Electronics & Computer Engineering (RAECE), Roorkee, India | Spectral discrimination using neural network for target detection," |
| 6 | 2010 | Geo Intelligence Asia 2010 at New Delhi (India) | Image Intelligence using Optical and Microwave Data |
| 7 | 2006 | 3rd international conference on microwaves, antenna propagation and remote sensing | Development of polarimetric transforms for detection of shallow buried non-metallic landmines in microwave X – band region(BEST PAPER AWARD) |
| 8 | 2006 | National conference on microwave techniques and applications (Microwave 2006)" under the aegis of University of Rajasthan. | Detection and estimation of shape of shallow buried non-metalic landmines using signal and image analysis techniques from microwave remote sensing data |
| 9 | 2005 | Civil Engineering Construction & Planning in Coastal Areas Likely to Encounter Tsunami" held at Port-Blair, Andaman & Nicobar Islands under the aegis of Engineers Branch, Army HQ. | Architectural and Structural Considerations for Civil Engineering Construction & Planning in Coastal Areas Likely to Encounter Tsunami |
| 10 | 2001 | National Conference organized under the aegis of Indian Surveyors Journal held at Siri Fort Stadium, New Delhi | Earthquake Prediction using Neural Networks |