

NISHANT TIWARI



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Research Interest

- Remote Sensing in Polar Studies
- Glacier/Ice Sheet Mapping & Velocity Estimation
- Microwave Remote Sensing
- Machine Learning & AI Applications in Remote Sensing

Skills

- **GIS Software** – ArcMap, ArcGIS Pro & QGIS
- **Remote Sensing Software** – ERDAS Imagine, ENVI & SNAP
- **Programming Skills** – Python, MATLAB & R
- **Instruments** – Mala GPR, DGI Drone, Rhyno Drone (Photogrammetry), SONAR (Deeper Pro)
- **Other Software** – WEKA (Machine Learning), Geovision (GPR Data), Blue Fire Touch (Drone flight planning), Hydrus

Other Achievements

- All India Rank 272 in Geomatics Engineering (GATE 2022)
- IELTS Academic – 7.5 Overall, (8- Speaking, 8- Listening, 7- Reading, 6.5- Writing)

Certificates

- ArcGIS Pro: Essential Workflows – ESRI
- R: The Full Machine Learning Solutions – UDEMY
- MATLAB with Mini Project – VTIPS
- Promoting Remote Sensing and Satellite Data for Development (Workshop) – ISRO, ISRS & IIRS
- Programming Data Structures and Algorithms Using Python – NPTEL

Publications

- Tiwari, N., Pandey, A.C., Dwivedi, C.S. (2022). *Comparative Assessment on Glacier Velocity Estimation Using Optical and Microwave Satellite Data over select large Glaciers across the Himalayas*. In Handbook of Himalayan Ecosystems and Sustainability, Volume 2 (pp. 19-33). CRC Press.
- Mathur, A., Tiwari, N., Kumar, V., & Pateriya, B. (2022). *Monitoring Road maintenance using video-geotagging in geographical information system: an innovative approach*. Journal of Geomatics, 16(2), 196-200.
- Pradhan, I.P., Mahanta, K.K., Tiwari, N. & Shukla, D.P. (2024). *Rock glaciers as proxy for machine learning based debris-covered glacier mapping of Kinnaur District, Himachal Pradesh*. Earth Surface Processes and Landforms, 1–22.
- Dash, A., Pradhan, I. P., Mahanta, K. K., Tiwari, N., & Shukla, D. P. (2024). *Comprehensive assessment of rock glaciers in the Himachal Himalayas: Updated inventory and labelling*. Progress in Physical Geography: Earth and Environment.
- Tiwari, N., Singh, R.P., Gupta, V. & Shukla, D.P. (2023). *Catastrophic 2023 Floods of Himachal Pradesh: A Scientific Overview of 20 years precipitation data*. AGU 2023.
- Tiwari, N., Pradhan I.P. & Shukla, D.P. (2023). *Identifying Glacier Lake Dynamics and vulnerable zones for GLOF using AHP*. AGU 2023.
- Dash, A., Pradhan., I.P., Tiwari, N. & Shukla, D.P. (2023). *Updated Rock Glacier Labelled Inventory of Himachal Pradesh*. AGU 2023.
- Pradhan, I.P., Mahanta, K.K., Tiwari, N. & Shukla, D.P. (2023). *Debris-Covered Glacier mapping using Random Forest algorithm of Kinnaur district, Himachal Pradesh*. AGU 2023.
- Tiwari, N., Mahanta, K.K., Pradhan, I.P., Dash, A. & Shukla, D.P. (2023). *SONAR based bathymetry survey of high-altitude mountain lakes*. (1st Review).

Work Experience

- **Punjab Remote Sensing Centre** | Ludhiana, Punjab - Junior Research Fellow 08/2021 – 01/2023
- **Neogeoinfo Pvt. Ltd.** | Gurugram, Haryana - GIS Engineer 02/2021 – 08/2021
- **Geomaticx Scientific Solution Pvt. Ltd.** | West Bengal, Kolkata - Intern (GIS) 06/2018 – 07/2018

Education

- **Central University of Jharkhand | Ranchi, Jharkhand**
Integrated M. Tech in Geoinformatics | 08/2020 – 1st Division with Distinction with 8.62 CGPA
M. Tech Thesis - Assessment of Glacier dynamics and velocity estimation using optical and microwave satellite data over major glaciers in Himalayas.
B. Tech Thesis - Geo-informatics based Surging characterization of Hispar Glacier, Karakoram Himalaya, using temporal satellite images.
- **Gyan Mandir Public School | Delhi, New Delhi**
Senior Secondary | 05/2015 – 1st Division with 87.33 %