

PRITAM DAS

Assistant Professor

Centre of Studies in Resources Engineering (CSRE)
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RIVER Lab

EXPERIENCE

Assistant Professor

August 2025 – Present
Indian Institute of Technology Bombay (IITB)
Mumbai MH, India

Graduate Research Assistant

March 2021 – March 2025
University of Washington
Seattle WA, USA

EDUCATION

Ph.D. with Data Science Option

2025
University of Washington
Civil and Environmental Engineering — Hydrology and Hydrodynamics
Dissertation title: *Regulated Surface Water: How Much and Where is it Flowing?*

M.S.

2022
University of Washington
Civil and Environmental Engineering — Hydrology and Hydrodynamics
Thesis title: *Reservoir Assessment Tool 2.0: Stakeholder driven improvements to satellite remote sensing based reservoir monitoring*

Integrated M.Tech.

2020
Indian Institute of Technology Roorkee
Department of Earth Sciences — Geological Technology

PUBLICATIONS

Peer-Reviewed Articles

1. **Das, P.**, and F. Hossain. (2026). A Paradigm Shift in Quantifying Regulation of Rivers using Globally Available Water Elevation Measurements. *Geophysical Research Letters*. [in review]
2. Minocha, S., **Das, P.**, and Hossain, F. (2025). Reservoir assessment tool (RAT): A python package for monitoring the dynamic state of reservoirs and analysing dam operations. *Digital Water*, 3, 1–30. <https://doi.org/10.1080/28375807.2025.2487762>
3. **Das, P.**, and F. Hossain. (2025). Multi-satellite Tracking of Surface Water Storage Change in the Era of Surface Water and Ocean Topography (SWOT) Satellite Mission. *Earth and Space Science*, 12, e2024EA004. <https://doi.org/10.1029/2024EA004178>
4. **Das, P.**, S. Suresh, F. Hossain, *et al.* (2024). Forecast informed reservoir operations within a satellite-based framework for mountainous and high precipitation regions: The case of the 2018 kerala floods. *ASCE Journal of Hydrologic Engineering*, 30(2), 05025003. <https://doi.org/10.1061/JHYEFF.HEENG-6276>
5. **Das, P.**, Hossain, F., Minocha, S., Suresh, *et al.* (2024). ResORR: A globally scalable and satellite data-driven algorithm for river flow regulation due to reservoir operations. *Environmental Modelling & Software*, 176, 106026. <https://doi.org/10.1016/j.envsoft.2024.106026>
6. **Das, P.**, Hossain, F., Khan, S., *et al.* (2022). Reservoir Assessment Tool 2.0: Stakeholder driven improvements to satellite remote sensing-based reservoir monitoring. *Environmental Modelling & Software*, 157, 105533. <https://doi.org/10.1016/j.envsoft.2022.105533>
7. Minocha, S., Hossain, F., **Das, P.**, *et al.* (2024). Reservoir Assessment Tool Version 3.0: A Scalable and User-Friendly Software Platform to Mobilize the Global Water Management Community. *Geoscientific*

- Model Development*, 17, 3137–3156. <https://doi.org/10.5194/gmd-2023-130>
8. Suresh, S., Hossain, F., Minocha, S., **Das, P.**, *et al.* (2024). Satellite-based tracking of reservoir operations for flood management during the 2018 extreme weather event in Kerala, India. *Remote Sensing of Environment*, 307, 114149. <https://doi.org/10.1016/j.rse.2024.114149>
 9. Darkwah, G. K., Hossain, F., Tchervenski, V., Holtgrieve, G., Graves, D., Seaton, C., Minocha, S., **Das, P.**, Khan, S., & Suresh, S. (2024). Reconstruction of the Hydro-Thermal Behavior of Regulated River Networks of the Columbia River Basin Using Satellite Remote Sensing and Data-Driven Techniques. *Earth's Future*, 12(10), e2024EF004815. <https://doi.org/10.1029/2024EF004815>
 10. Dixit, A., Goswami, A., Jain, S., & **Das, P.** (2024). Assessing snow cover patterns in the Indus-Ganga-Brahmaputra River Basins of the Hindu Kush Himalayas using snow persistence and snow line as metrics. *Environmental Challenges*, 14, 100834. <https://doi.org/10.1016/j.envc.2023.100834>
 11. Dixit, A., Goswami, A., Jain, S. K., & **Das, P.** (2024). Remote sensing of snow cover dynamics and climate implications in the Indus, Ganga, and Brahmaputra River basins. *Climate Dynamics*, 62(8), 7309–7327. <https://doi.org/10.1007/s00382-024-07280-5>
 12. Khan, S., Hossain, F., Pavelsky, T., Parkins, G. M., Lane, M. R., Gómez, A. M., Minocha, S., **Das, P.**, *et al.* (2023). Understanding Volume Estimation Uncertainty of Lakes and Wetlands Using Satellites and Citizen Science. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 16, 2386–2401. <https://doi.org/10.1109/JSTARS.2023.3250354>
 13. Hossain, F., **Das, P.**, Srinivasan, M. *et al.* (2022). Building User-Readiness for Satellite Earth Observing Missions: The Case of the Surface Water and Ocean Topography (SWOT) Mission. *AGU Advances*, 3(6). <https://doi.org/10.1029/2022AV000680>
 14. Sattar, A., Goswami, A., Kulkarni, A. V., & **Das, P.** (2019). Glacier-Surface Velocity Derived Ice Volume and Retreat Assessment in the Dhauliganga Basin, Central Himalaya – A Remote Sensing and Modeling Based Approach. *Frontiers in Earth Science*, 7, 105. <https://doi.org/10.3389/feart.2019.00105>

Popular Articles

1. **Das, P.**, S. Minocha, S. Khan, and F. Hossain. Fighting Flood Disinformation. In *International Water Power and Dam Construction*, 2025.
2. S. Minocha, **Das, P.** and F. Hossain. Reimagining dams as transit hubs: visualising global water networks with DamNet. In *International Water Power and Dam Construction*, 2024.
3. F. Hossain, **Das, P.**, *et al.* A satellite remote sensing perspective on water resources. In *International Water Power and Dam Construction*, 2023.
4. **Das, P.**, F. Hossain, H. B. Helgason, and S. Khan. Satellites over the amazon capture the choking of the ‘house of god’ by the belo monte dam – they can help find solutions, too. In *The Conversation*, 2022.

Conference Presentations

1. **Das, P.**, Sobhani, N., Zhang, T., & Cherukuru, N. (2024, January 28). *Interactive Visualization of the CESM-LENS2 Climate Dataset – Lessons Learned and Recommendations for Visualizing Gridded Datasets using Open Science Tools*. 40th Conference on Environmental Information Processing Technologies, Baltimore, MD.
2. **Das, P.**, Hossain, F., & Minocha, S. (2023, December 14). *Monitoring and Predicting Reservoir Driven River Regulation from Space*. AGU Fall Meeting, San Francisco, California, USA.
3. **Das, P.**, Hossain, F., Khan, S., Biswas, N. K., Lee, H., Piman, T., Meechaiya, C., Ghimire, U., & Hosen, K. (2022, November 9). *Monitoring reservoir operations of the Mekong River from space – A self-correcting multi-sensor approach*. AWRA Annual Water Resources Conference, Renton, Washington, USA.
4. Lee, H., Hossain, F., **Das, P.**, Minocha, S., Du, T. L. T., Nguyen, N. T., Bui, D. D., Laverde, M., Hosen, K., & Towashiraporn, P. (2024, December 13). *Toward Integrative Flood and Drought Management Services for Lower Mekong*. AGU 24 Fall Meeting.
5. Minocha, S., Hossain, F., Zhao, J., Suresh, S., & **Das, P.** (2024, December 13). *Hidden Sediments, Lost Capacity: How Swiftly Are Global Reservoirs Depleting?* AGU 24 Fall Meeting, Washington, D.C, USA.
6. Darkwah, G., Hossain, F., Holtgrieve, G. W., **Das, P.**, & Suresh, S. (2023, December 13). *Reconstruction of the Hydro-Thermal History of Regulated River Networks Using Satellite Remote Sensing and Data-driven Techniques*. AGU 23 Fall Meeting, San Francisco, California, USA.
7. Minocha, S., Hossain, F., **Das, P.**, Suresh, S., Khan, S., & Darkwah, G. (2023, December 13). *Collaborative Water Management for Advancing Open Science in Regulated River Basins with the Open-Source Reservoir Assessment Tool (RAT) 3.0: A Python Package Integrating Cloud Computing, Satellite Data, and Modeling*. AGU 23 Fall Meeting, San Francisco, California, USA.
8. Sobhani, N., **Das, P.**, Cherukuru W., N., & Zhang, T. (2023, December 14). *Unlocking Climate Data Insights: A Comparative Study of Interactive Visualization Approaches*. AGU Fall Meeting 2023.
9. Suresh, S., Hossain, F., Minocha, S., **Das, P.**, Khan, S., Lee, H., Andreadis, K., & Oddo, P. (2023, December 13). *Satellite Earth Observations Based Tracking of Reservoir Operations for Flood Preparedness in Mountainous and High Precipitation Regions: A Case of the 2018 Kerala Floods*. AGU 23 Fall Meeting,

San Francisco, California, USA.

10. Hossain, F., & Das, P. (2023, January 10). *Reservoir assessment tool 2.0: Stakeholder-driven improvements to satellite remote sensing-based monitoring of reservoirs*. American Meteorological Society Annual Meeting – Roger Pielke Symposium, Denver, Colorado, United States.

AWARDS

People's Choice Graduate Poster Presentation

2022

American Water Resources Association (AWRA), Renton, WA
People's Choice award for the Best Poster Presentation.

Department Gold Medal

2020

Department of Earth Sciences, Indian Institute of Technology, Roorkee. Roorkee, India
Awarded with the Department Gold Medal for academic excellence.

TEACHING AND ADVISING

Invited Talks

AI-driven Streamflow Prediction in Regulated Basins: LSTM Models as Alternatives to Physically-based Hydrological Models in Regulated Basins. 2026

FAR-SEE 2026, Physical Research Laboratory (PRL), Ahmedabad (Virtual), India

Courses

Instructor, [GNR 804] Distributed Hydrological Modeling. 2026

Indian Institute of Technology Bombay, Mumbai MH, India

Instructor, [GNR 619] Natural Resources: Biosphere and Lithosphere. 2025

Indian Institute of Technology Bombay, Mumbai MH, India

Guest Lecturer, Satellite Remote Sensing for Water Resources. 2024

University of Washington, Seattle WA

Teaching Assistant, Satellite Remote Sensing for Water Resources. 2022

University of Washington, Seattle WA

Training and Workshops

Trainer, Satellite Observations and Tools for Reservoir Monitoring in relation to Enhancing Flood and Drought Management in the Mekong Region. 2022

Asian Disaster Preparedness Centre (ADPC), Bangkok, Thailand

Trained engineers and water resource managers of member countries of the Mekong River Commission (MRC) on the Reservoir Assessment Tool 2.0.

Trainer, 3rd SWOT Early Adopter Virtual Hackathon. 2022

University of Washington, Seattle WA

Trained and brainstormed with early adopters of the Surface Water and Ocean Topography (SWOT) mission at ADPC to enhance their existing projects.

JOURNAL PEER REVIEW ACTIVITY

Journal of Hydrology: Regional Studies (5), Environmental Modelling and Software (3), Scientific Reports (2), Journal of Open-Source Software (2), Geophysical Research Letters (1), Environmental Earth Sciences (1), Journal of Hydrology (1), Discover Applied Sciences (1), Earth's Future (1), Remote Sensing of Environment (1), Water Resources Research (1)

CERTIFICATIONS

- Responsible Conduct of Research (RCR), *CITI Program*. Jun 2023.
- Power Your Presentations, *Dale Carnegie*. Jan 2021.
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization, Structuring Machine Learning Project, *Coursera*. Oct 2020.
- Neural Networks and Deep Learning, Mathematics for Machine Learning, *Coursera*. Sep 2020.

SKILLS & INTERESTS

- Society Affiliations: Student Member at American Geological Union (AGU) and American Water Resources Associations (AWRA)
- Languages: English, Hindi, Bangla
- Interests: Running, Hiking, Volunteering