

# Suman Bhowmick

Kashimpur, Duttapukur, North 24 PGS, West Bengal, India, 743248

☎ +91 8509647380 ✉ [sumanbhowmick768@gmail.com](mailto:sumanbhowmick768@gmail.com)

in [linkedin.com/in/sumanbhowmick](https://www.linkedin.com/in/sumanbhowmick) 🌐 [Suman1801](#)

📊 [kaggle – suman1801](#)

## Research Interest

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My research interests are rooted in hydrology, including isotope hydrology, groundwater–climate interactions, and the hydrological response of landscapes to land use changes. I am also engaged in agricultural geospatial modeling, climate–soil interactions, river course changes, and sediment transport analysis. My current focus lies in integrating remote sensing and machine learning approaches for modeling soil fertility, erosion, and environmental dynamics.

## Education

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| <b>M.A./M.Sc in Geography</b><br>North-Eastern Hill University, Shillong<br>CGPA: 8.00     | <b>2022–2024</b> |
| <b>B.Sc in Geography</b><br>Acharya Prafulla Chandra College, New Barrackpur<br>CGPA: 8.46 | <b>2019–2022</b> |

## Technical Skills

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| <b>GIS</b>               | : ArcGIS Pro, ArcGIS, QGIS                          |
| <b>Programming</b>       | : R, Python, LaTeX, Google Earth Engine             |
| <b>Data Analysis</b>     | : SPSS, Stata, NVivo, TerrSet                       |
| <b>Image Processing</b>  | : Satellite Imagery, Aerial Photography             |
| <b>MS Office</b>         | : Excel (Climate Data Processing), Word, PowerPoint |
| <b>Citations Manager</b> | : Mendeley, Zotero                                  |

## Field Experience

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| <b>Ri-Bhoi District, Meghalaya</b> | <b>Feb 2024 – Apr 2024</b> |
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- Conducted field visits for systematic soil sampling across diverse topographic units.
- Used GPS devices for geotagging and elevation measurement of all sampling points and preparation of road map.
- Collected field notes on vegetation, barren and land use for each location to support GIS-based LULC modeling.

## Research Engagement

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### Remote Sensing Application for Flood Hazard Assessment: A Study in the Lower Gangetic Plain of West Bengal

Aug 2025 – Present

Collaborative Research with [Dr. Abhishek Ghosh](#), North-Eastern Hill University

**Role:** Research Collaborator

- Applying satellite remote sensing and GIS-based modelling to map and monitor flood hazards.

### Spatial Modeling of Soil Degradation and Its Impact on Agricultural Sustainability in the Lower Ganga Delta

June 2025 – Present

Student-led collaborative research (team of five: three master's graduates and two PhD candidates)

**Role:** Lead Researcher

- Focused on evaluating spatial patterns of soil degradation using remote sensing-based indicators.
- Analyzed long-term land use change and its effect on agricultural resilience using multi-temporal satellite data.

## Workshops and Training Programs

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- **Transforming GIS with Python Integration** Jul 2025  
Lecture by Krishna G. Lodha (GIS Enthusiast, Ronten Grass) Online
- **AI-ML for Earth Observation: Ground Segment Operations, Data Processing & Applications** Jun 2025  
Bhoonidhi Workshop Series, NRSC, ISRO (1-day Workshop) Online
- **Research Ethics in the Digital/AI Age: What is Plagiarism?** Jun 2025  
Webinar by Cecilia K. Y. Chan (University of Hong Kong) Online
- **Deep Learning for SAR Image Processing** Jun 2025  
Lecture by Dr. Florence Tupin (Télécom Paris), IEEE GRSS and IEEE Madras Section Online
- **Road Map of Future Geographies: Drone Technology and Geo-Spatial Analysis** Mar 2019  
Department of Geography, Adamas University (2-day Workshop) Kolkata, India

## Online Courses

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- **Python for Data Science** Jun–Jul 2025  
NPTEL (IIT Madras) — Instructor: Prof. Raghunathan Rengasamy  
*Equipped participants with Python programming skills for solving data science problems. Covered Spyder basics, Python data types, NumPy, Pandas, data visualization (Matplotlib, Seaborn), control structures, and a case study.*
- **Writing in the Sciences** Jun–Jul 2025  
Coursera (Stanford University) — Instructor: Prof. Kristin Sainani  
*Covered scientific writing structure, clarity, and publication ethics through hands-on assignments.*
- **Remote Sensing Data Analytics for Crop Production Forecasting** Jun 2025  
IIRS-ISRO (5 Days, Course No. 168, Coordinator: Dr. N. R. Patel) [View Certificate](#)  
*Covered RS-based crop discrimination, yield estimation, and UAV-assisted crop simulation techniques.*
- **Archival and Access of the Space Science Data** Jun 2025  
IIRS-ISRO (5 Days, Course No. 167) [View Certificate](#)

*Introduced satellite data processing, science data archival practices, and remote sensing case studies in astronomy and in-situ observations.*

- **Academic and Research Report Writing** Aug–Oct 2023  
NPTEL SWAYAM (NITTTR Kolkata) — Instructor: Dr. Samir Roy  
*Focused on academic writing, literature review, citation styles, and document formatting using LaTeX.*

## Honors and Awards

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- **UGC-NET Qualified** – December 2024 and June 2025 (Ph.D. Only)
- **Top Rank Holder in M.Sc. Geography, NEHU** – 2024

## Other Certifications and Extracurricular Engagement

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- **NCC Combined Annual Training Camp (CATC-12)** Oct–Nov 2017  
31 Bengal BN NCC, Matiaburj High School Kolkata, India
- **Information Technology Application** Jan–Jun 2017  
Youth Computer Training Centre, Govt. of West Bengal Kolkata, India  
Certified by Hewlett Packard Enterprise
- **Yoga Training Programme (1 Month)** May–June 2016  
Ramakrishna Mission Vivekananda University, Belur Math Kolkata, India  
Sponsored by CCRYN, Ministry of AYUSH

## Languages

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- Bengali (Native), English (Fluent), Hindi (Fluent)