



**Prayas Prasad**  
PG (II Year II Semester)  
M.Tech. Ground Water Hydrology  
Contact No: 7905052508  
Email: prayas\_p@hy.iitr.ac.in  
Registration No: 23557006/2025



**Area of Interest**  
GROUNDWATER HYDROLOGY, MODELLING, DATA ANALYTICS, NANOPARTICLES

**Education**

Year	Degree/Examination	Institution/Board	CGPA/ Percentage
2024	M.Tech. 2nd Year	Indian Institute of Technology, Roorkee	7.600
2023	Graduate (UG)	BANSAL INSTITUTE OF TECHNOLOGY	8.310
2019	Intermediate (Class XII)	MUKULARANYAM ENGLISH SCHOOL	69.40 %
2017	Matriculate (Class X)	MUKULARANYAM ENGLISH SCHOOL	8.000

**Experience**  
**Warehouse S** | B4S Solutions Pvt. Ltd. January 2023 - July 2023

- As a Warehouse Supervisor at B4S Solutions Pvt. Ltd., I oversaw inventory, managed shipping and receiving. I improved processes to work more efficiently, ensured safety rules were followed, and kept accurate records to support smooth operations.

**Internships**  
**MICROWAVE ASSISTED SYNTHESIS OF NANOPARTICLES FOR ENVIRONMENTAL APPLICATIONS** | AQUANANOLAB June 2024 - July 2024

- As an Intern, I synthesized microwave-assisted nanoparticles for environmental applications, optimizing reaction conditions for efficiency and sustainability. My work focused on enhancing nanoparticle properties for agricultural applications, contributing to the development of eco-friendly solutions in environmental sustainability.

**AGRI MARKETING** | BIJAK AGRITRADE July 2022 - August 2022

- COMPLETED 6 WEEKS INTERNSHIP IN AGRI. MARKETING

**Projects**  
**Development of Microwave-Assisted Slow-Release Nano-Enabled Fertilizers for Sustainable Agriculture** | Department of Hydrology, IIT ROORKEE July 2024 - Present

- Utilizing microwave synthesis, I aim to create fertilizers that enhance nutrient delivery efficiency and reduce environmental impact. This innovative approach ensures a controlled release of nutrients, minimizing leaching and runoff, which are common issues with conventional fertilizers. By optimizing the physical and chemical properties of nanoparticles, my work contributes to the advancement of eco-friendly agricultural practices. The ultimate goal is to improve crop yield and soil health while promoting sustainability and reducing the ecological footprint of farming.

**Synthesis of Biochars and Hydrochars** | Department of Hydrology, IIT ROORKEE July 2024 - Present

- I am synthesizing biochars and hydrochars from sewage waste, including magnetic-induced variants, for environmental remediation. These materials effectively remove heavy metals and serve as efficient dye and oil absorbents for treating industrial wastewater and mitigating oil spills in the sea, offering a sustainable solution for water purification and pollution control.

**Data Analytics** | Self Project August 2024 - November 2024

- To assess and analyze changes in agricultural land use over time using GIS and data analysis techniques. The project aims to identify trends, patterns, and impacts of land use changes on agriculture.

**Automated Polyhouse using NODE- MCU ESP-8266** | Bansal Institute of Engineering and Technology, Lucknow November 2022 - April 2023

- This system integrates IoT sensors and automated controls for climate management, irrigation, and real-time monitoring. By optimizing conditions such as temperature, humidity, and soil moisture, the polyhouse maximizes crop productivity, conserves resources, and ensures consistent yields year-round, promoting sustainable and efficient agricultural practices.

**Skills**

Computer languages	PYTHON , C/C++ , SQL , R
Software Packages	MS-OFFICE , ORIGIN, ERDAS Imagine , Arc-GIS , QGIS, HEC-HMS, HEC-RAS, WinSRM,
Additional Courses	Google Data Analytics Professional, Google AI Essentials
Languages Known	Hindi (SRW), English (SRW)

**Positions of Responsibility & Extra Curriculars**  
**Teaching Assistant** | Department of Hydrology , IIT ROORKEE July 2024 - November 2024

- TA at Environmental Hydrology Lab where I taught students on water quality assessment techniques, guided laboratory experiments, and assisted in data analysis and interpretation.

- Teaching Assistant** | Department of Hydrology , IIT ROORKEE September 2024 - December 2024
- TA for the course Tinkering and Mentoring Lab on the project ' Nano-enabled Materials for Sustainable Agriculture : Release Kinetics and Plant Growth Tests"
- Placement Coordinator** | IIT ROORKEE September 2023 - September 2024
- Inviting companies for the campus recruitments, taking regular follow ups, placement written test duties, etc.
- Participant** | IIT MADRAS July 2024 - November 2024
- Completed theory sessions in " A Hybrid Course on Water Quality- An Approach to People's Water Data", in which I gained knowledge on fundamentals of water quality parameters and standards, theory of water quality measurements, use of appropriate methods and equipment, water quality surveys, and behavioral issues relating to water quality along with hands on measurements in the field with appropriate equipment
- Organizer** | Department of Hydrology , IIT ROORKEE March 2024
- Organized Pravaaha 2024, the water technical fest on occasion of World Water Day and Research Scholar Day.
- Volunteer** | IIT ROORKEE March 2024
- Volunteered at the International Conference on Water Resources .
- PARTICIPANT, PRAVAAHA** | Department of Hydrology , IIT ROORKEE March 2024
- Participated in Fluid Frame Frenzy and Photo Competition
- Participant,** | Prime Agriculture July 2024
- Gained insights into advanced hydroponic systems and precision agriculture techniques. Learned about optimizing plant growth, nutrient management, and resource efficiency through innovative agricultural technologies.

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## References

**PROF. NITIN KHNADELWAL**  
ASSISTANT PROFESSOR  
IIT ROORKEE  
nitin.khandelwal@hy.iitr.ac.in  
+91 90799 00435

**PROF. BRIJESH KUMAR YADAV**  
PROFESSOR  
IIT ROORKEE  
brijesh.yadav@hy.iitr.ac.in  
+91 89795 34484