

PRANJALI DILIPRAO PATIL

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EDUCATION:

Year	Degree/Exam	Institute	CGPA/Marks
2026	M.Tech	Indian Institute of Technology Kharagpur	9.24 / 10
2022	B.Tech	Mahatma Phule Krishi Vidyapeeth, Rahuri	8.06 / 10
2018	SSC	Higher Secondary Certificate Maharashtra State Board	83.69%
2016	HSC	Secondary School Certificate Maharashtra State Board	93%

INTERNSHIPS:

R & D Intern: QuantaSIP Informative Solutions Pvt Ltd.

[May 2025-July 2025]

- Developed an **interactive geospatial analytics dashboard** for real-time KPI visualization, EDA, and Business decision-support, enabling insurance risk analysis and reporting automation
- Engineered **ML based** feature pipelines and applied DL super-resolution model to upscale sentinel-2 imagery, improving quality for predictive analytics

PROJECTS:

Decadal Changes of Biomass Carbon Stock in the Indo-Gangetic Mangrove Area: Insights from Landsat Remote Sensing. | Guide: Prof. Subhadip Dey (M.Tech Thesis)

[Jun 2025-Present]

- Conducted regression analysis on Landsat dataset using python and ML models for decal carbon stock estimation
- Quantified time series trends, feature importance and predictive patterns to generate actionable climate insights

Shrimp Disease Early Warning System (Self Project)

[Aug 2025-Present]

- Built an end-to-end ML pipeline with data cleaning, feature engineering, and ensemble models on multi parameter dataset to enable predictive risk scoring using cross-validated evaluation matrices
- Deployed a streamlit analytics application delivering real-time prediction dashboards with 99+ classification accuracy to support proactive aquaculture decision making

House Price Prediction using Advanced Machine Learning Models (Self-Driven Project) [Jan 2026 – Feb 2026]

- Designed a supervised regression framework using Scikit-learn and XGBoost for housing price estimation
- Performed advanced feature engineering, cross-validation, and hyperparameter optimization to minimize RMSE
- Evaluated model performance using R², MAE, RMSE, and feature importance analysis to interpret predictive behavior and enhance generalization

SKILLS AND EXPERTISE:

Technical Skills: Remote Sensing, GIS, Environmental Monitoring, Spatial Analysis, Data Science, Machine Learning, Supervised Learning, Classification Models, Ensemble Methods, Cross-Validation, Model Evaluation, Generative AI

Programming & Libraries: Python, SQL, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, Streamlit, Optuna

Data Analysis & Modeling: EDA, Data Cleaning, Feature Engineering, Statistical Analysis, Predictive Modeling

Tools & Platforms: ArcMap, QGIS, GEE, Google Earth Pro, Power BI, Jupyter Notebook, VS Code, MS Office

Professional Skills: Problem Solving, Critical Thinking, Communication, Leadership, Team Management,

Languages: English, Hindi, Marathi, Japanese (Basic)

PUBLICATIONS:

- Pranjali D. Patil, Nitin G. Patil, & Atul A. Atre. (2023). **Estimation of Soil Loss using RUSLE, GIS, and Remote Sensing: A Case Study of Sangli District, Maharashtra.** *Journal of Agricultural Engineering (India)*, 60(3), 297-310.
- Pranjali D. Patil, Vaishnavi Joshi, Subhadip Dey (2025). **Waterbody Mapping Using Modified 3-Component Model-based Decomposition of TerraSAR-X Data** (Accepted to Publish -IGRASS 2026)

AWARDS AND ACHIEVEMENTS:

- Recipient of the prestigious **Sharad Pawar Inspire Fellowship in Agriculture** (2022), awarded for an innovative idea.
- Secured an **All-India Rank 221 in the GATE 2024** conducted by IISc Bangalore for master's admission
- Winner of 1st Prize** at Inter-College Elocution and selected as the University Representative at the National Level

POSITIONS OF RESPONSIBILITY:

- Magazine Editor & Content Lead** (Marathi Section) | UG • **General secretary of mess** | UG • **Event Planning Coordinator** | UG • **PG Student Mentor** | Student Mentorship Program, Student Welfare Group, IIT Kharagpur
- Teaching Assistant, IIT Kharagpur • **Volunteer at Kshitij**, Asia's Largest Techno-Management fest | IIT Kharagpur