



AQUACULTURAL ENGINEERING

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2026	M.TECH	IIT Kharagpur	9.24 / 10
2022	Bachelor of Technology	Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra.	8.06 / 10
2018	Higher Secondary Certificate	Maharashtra State Board	83.69%
2016	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
Intern (LUP Division): ICAR- National Bureau of Soil Survey & Land Use Planning, Nagpur. [Jan2022-Jun2022]
• Performed ETL based geospatial data preprocessing, feature extraction and terrain analytics using ArcGIS, QGIS, SAGA GIS, and GEE to build Digital soil mapping datasets for modeling and decision reporting
• Contributed to a **Government-funded project**, Nanaji Deshmukh Krishi Sanjivani Prakalp (PoCRA), with a strong focus on soil mapping, sustainable land resource management, and long-term agricultural productivity improvement, benefited to 4000+ villages to improve agricultural productivity
Intern: Albedo Foundation, Nashik. [Jun 2020-July 2020]
• Conducted **RS and GIS workflows** including raster processing, spatial querying, and georeferencing using QGIS, enhancing accuracy in spatial datasets

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. <https://doi.org/10.52151/jae2023603.1815>
• 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)

COURSEWORK INFORMATION

Microwave Remote Sensing | Technopreneurial Marketing | Consumer Happiness and Wellbeing | Water Quality Management Practice

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 **multi-temporal 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 analytics 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
Land Use Land Cover Change Detection Using GEE, Remote Sensing and GIS. (Self-Project) [Jan2022-April 2022]
• Conducted **LULC change detection** with Google Earth Engine, ArcMap, and remote sensing techniques, integrating multi-temporal imagery
• Applied **geospatial feature engineering and ML-based classifiers** to improve accuracy in monitoring and mapping land cover transitions
Adoption of Hydroponics as a Sustainable Organic Farming Practice | Guide: Prof. Mamoni Banerjee (Academic Project: Technopreneurial Marketing) [Feb 2025-Mar 2025]
• Researched the **impact of economic, environmental, and productivity factors** using rigorous survey methods and multivariate statistical analysis
• Provided **data-driven opinions on hydroponics** as a sustainable farming method and developed policy and strategic guidelines for implementation

SKILLS AND EXPERTISE

Area of Interest: Remote Sensing | GIS | Environmental Monitoring | Machine Learning | Data Analysis | Spatial Analysis | Data Science | Gen AI
Programming Languages: Python | SQL **Libraries/ Frameworks :** Pandas | Numpy | Matplotlib | Seaborn | Scikit Learn | Streamlit | Optuna
Data Analysis: EDA | Data Cleaning | Feature Engineering | Statistical Analysis **Machine Learning:** Supervised Learning, Classification Models, Ensemble Models, Cross-Validation, Model Evaluation **Software and Tools:** ArcMap | QGIS | Google Earth Engine | Google Earth Pro | Power BI | Jupyter Notebook | VS Code | Anaconda | MS office **Soft Skills:** Problem Solving | Critical Thinking | Communication | Leadership | Management | Teamwork | Creative Writing **Linguistic Skills:** English | Hindi | Marathi | Japanese (Basic)

CERTIFICATIONS

Python, GUVI | Introduction to Excel, Coursera | Business Analyst and Process Management, Coursera | JLPT N5, Japanese Language Teachers' Association of Pune | Computer Intelligence Olympiad, Central Board of IT and vocational training

AWARDS AND ACHIEVEMENTS

• Recipient of the prestigious Sharad Pawar Inspire Fellowship in Agriculture (2022), awarded for an innovative research idea.
• Secured an All-India Rank 221 in the GATE 2024 conducted by IISc Bangalore for masters admission

POSITIONS OF RESPONSIBILITY

• Head and compiler of college magazine (Marathi Section) | UG • General secretary of mess | UG • Member of Event Organization committee | UG
• PG Mentor | Student Mentorship Program, Student Welfare Group, IIT Kharagpur • Teaching Assistant, IIT Kharagpur

EXTRA CURRICULAR ACTIVITIES

• Winner of 1st Prize at Inter-College Elocution Competition and selected as the University Representative at the National Level
• Served as volunteer under the National Service Scheme (NSS), coordinating community development activities and mentoring fellow volunteers
• Appointed Parade Captain of the Scout Cadet Team, demonstrating leadership, discipline, and organizational skills in managing team
• Volunteered for the Digital India initiative during Kshitij 2025 at IIT Kharagpur, contributing to awareness and outreach activities on digital empowerment

!Self declared by the student, CDC could not verify the relevant documents