



Project Proposal for Ph.D.

Project Details (The research problem must clearly indicate the need for an interdisciplinary approach)

Project Title	Strengthening India's National/State Disaster Management Plan: An Integrated AI and Policy Approach
Project Summary (Minimum 500 and maximum 2000 characters)	This project aims to bridge Artificial Intelligence (AI) and policy to strengthen disaster management in India. Using the National Disaster Management Authority (NDMA) Disaster Management Plan (DMP) as a starting framework, the project will study how AI can add value to the process of Hazard, Risk and Vulnerability Assessment (HRVA), which forms the basis of long-term vision and short-term response in Disaster Management Plan. The project will explore AI applications such as predictive hazard modelling, data analysis from diverse sources like satellites and social media to understand how planning can be better informed in a data-scarce environment for disaster management in India. The research will also address policy integration by investigating the complexity of how governance structures can adapt to ensure AI adoption is smooth and accountable. An interdisciplinary approach is important in this project because disaster management is not only a technical challenge but also a governance and policy issue. While AI can provide powerful tools for prediction, monitoring, and decision support, their real-world impact depends on institutional adoption and regulatory frameworks. Overall, the project will aim towards understanding the potential of AI-based enhancement of the DMPs for better response and planning efficiency.

Ph.D. Supervisors* (Supervisor 1 and Supervisor 2 cannot be from the same department of IITD)			
Role	Name of Faculty	Academic Unit in IITD/Institute/University	Email ID (Official)
Supervisor 1*	Sudipan Saha	Yardi School of AI	sudipan.saha@scai.iitd.ac.in
Supervisor 2	Anshu Ogra	School of Public Policy	ograanshu@iitd.ac.in

*Supervisor 1 must be from IIT, Delhi.
+All cells in this table are mandatory fields that need to be filled by faculty for consideration of proposal.
§The date of superannuation of supervisors should be at least three years from the date of registration of selected candidates.

Project requirements (Student qualifications, experience required, etc)
*The candidate will be shortlisted based on common shortlisting criteria decided by ScRC (SIRe)

- MTech Degree in CS/EE/Mathematics/Other Relevant Engineering Stream
- Exposure to (or basic background in) AI
- Exposure to (or willingness to learn about) policy
- Desired (not mandatory) - some experience in AI and disaster space.

Source of fellowship/funding and project number (CSIR/UGC/DBT/ICMR/ICAR/NEET-PG/DST-INSPIRE/IRD/FITT Project details, if any)
Full-time Institute Assistantship

Role of Faculty Members involved:	
Supervisor-1	Will guide the student in the design, development, and application of Remote Sensing and Machine Learning methods for disaster management. This includes identifying suitable data sources and ML techniques for predictive hazard modelling, geospatial and satellite data analysis, social media analytics, and tasks related to preparedness and response.
Supervisor-2	Will guide the student in integrating AI innovations with India’s disaster governance structures, ensuring that proposed solutions align with regulatory standards. This supervisor will help navigate policy challenges and institutional adoption.

- Note :-**
- 1. Approval from the respective DRC/CRC/ScRC of your Department/Centre/School will be required for using the "Full-time Institute Assistantship (Category-wise) (FIA)" for selecting the students in SRe.
 - 2. Declaration:- Faculty members, please ensure that you have at least 3 years of service left before superannuation along with adequate sitting space & lab facilities for the SRe student.
 - 3. PI/s are also encouraged to submit joint proposals with AIIMS, NII, JNU and institutes with which IITD has an existing MoU. If the Co-PI (Supervisor 2) is from outside IITD, kindly share his/her detailed CV.
 - 4. If a research scholar is to be considered for selection under the project fellowship, then the project should have a minimum of two-year duration remaining.
 - 5. A candidate applying with a valid JRF/INSPIRE/any national level fellowship should have at least two-year validity from the date of joining the Ph.D. program.
 - 6. The third supervisor’s name (if required) can be added only after the formation of Student Research Committee (SRC) subject to a strong recommendation of SRC and subsequent approval from the competent authority.
 - 7. If Institute fellowship is being sought, then DRC approval of the parent department of Supervisor 1 is required at the time of selection.