



Indian Institute of Technology (Indian School of Mines), Dhanbad

Office of the Dean, Research & Development

Sanction No and Date: ANRF/ECRG/2025/000131/ENS Dated:17/07/2026	IIT (ISM) Dhanbad Project No. SRDP 1351 G	Date 06/08/2026
--	---	--------------------

Project Staff (JRF) position under ANRF Project

Applications are invited under the sponsored project. The details are as follows:

Position	ANRF - Junior Research Fellow (JRF)
Number of Position (s)	01 (One)
Title of The Project	Design and Development of an AI-Driven Offensive Reconnaissance Framework for Proactive Exposure Mapping and Risk Forecasting in India's Critical Internet Infrastructure
Principal Investigator	Prof. Nikhil Tripathi , Assistant Professor, Department of Computer Science & Engineering, IIT (ISM) Dhanbad, Jharkhand 826004. Email: nikhiltripathi@iitism.ac.in
Tenure of Project	Maximum three years or till the end of the project, whichever is earlier
Job Description (in maximum of 100 words)	As a JRF, you will lead ethical Internet-scale active measurements using ZMap and Masscan across whitelisted IP ranges, and integrate data from Censys, CAIDA Spoofer, RIPE RIS, RouteViews, and NVD. You will design and deploy honeypots (Cowrie, Dionaea) to capture attacker-behaviour signals, engineer features from protocol and routing data, and build exposure-prediction models using Gradient Boosted Trees, GNNs, and LSTMs. You will construct representative network topologies and run ns-3 simulations to validate the operational impact of high-risk assets, develop a visual analytics dashboard, and contribute to sector-specific mitigation guidelines and technical documentation for national stakeholders.
Essential Qualification	BE/BTech/ME/MTech/MS/MCA/MSc with a GATE qualification (in CS, DA, EC, or EE) or NET (in Computer Science and Applications, Electronic Science, and Mathematical Sciences)
Desirable Qualification	• Exposure to ethical hacking; certifications such as CEH, OSCP, or equivalent will be an added advantage • Prior exposure to network scanning and reconnaissance tools or Internet measurement platforms. Familiarity with honeypot technologies • Working knowledge of machine learning frameworks • Proficiency in Python and Linux-based environments; familiarity with data processing and visualization libraries
Age and Relaxation (if any)	35 years and As per the norms of the Government of India / IIT (ISM) Dhanbad
Fellowship	(37,000 INR + 20 % HRA)/month for first two years, and (42,000 INR + 20 % HRA)/month for third year. The Fellowship 42000/- INR in third year will be awarded after successful assessment.
Last Date & Time	19th August 2026 (Wednesday), 09:00 PM. Online Application link https://forms.cloud.microsoft/r/Vz0LceCzu8 Interested candidates are requested fill the online application (as per the link provided) and must attach all supporting documents, copies of publications, awards, recommendation letter, CV with Photo , GATE/NET/National level examination qualification certificate, etc.).

Shortlisted candidates will be notified of the date of interview. Mere possession of minimum qualification does not guarantee an invitation to the interview. Candidates will be shortlisted based on their merit and as per the requirement of the project. The interview will be conducted via video conferencing; a link for this purpose will be shared with the shortlisted candidates in due course.

Assistant Professor
Deptt. of Computer Science & Engg.
Indian Institute of Technology
(Indian School of Mines) Dhanbad
Jharkhand- 826004, India

Signature of PI