

SRIC/06

**INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
DEPARTMENT OF ELECTRICAL ENGINEERING**

September 22, 2026

ADVERTISEMENT TO FILL UP PROJECT POSITIONS*

Applications are invited from Indian nationals only for project position(s) as per the details given below for the research project under the Principal Investigator, **Dr. Bhaveshkumar R. Bhalja**, Department of Electrical Engineering, Indian Institute of Technology, Roorkee.

1. Title of project: **AI-based Cyber-Physical Protection & Monitoring in Digital Substations**
2. Sponsor of the project: **GE Renewable Energy Technologies Limited, Hyderabad, Telangana, India**
3. Project position(s) and number: **JRF (01)**
4. Qualifications: **M. E./M. Tech. in Electrical Engineering with specialization in power systems or equivalent, and must have qualified GATE/NET.**
5. Emoluments: **40,000 + HRA (as per institute rules) + Contingencies for attending conferences at national/international level.** *(Consolidated)*
6. Duration: **4 years or till the end of the project (whichever is earlier).**
7. **Job description:** To develop and validate architecture for AI-assisted cyber-physical protection and monitoring in an IEC-61850-based digital substation with the following objectives:
 - (i) Conduct a detailed literature review on digital substations, AI/ML in power system protection & monitoring, IEC 61850 standard related cyber risks, and utility deployment constraints.
 - (ii) Define cyber-physical threat model and operational use cases with utility relevance.
 - (iii) Build a research data framework covering protection settings, process bus data, event logs, network telemetry, and asset-condition inputs.
 - (iv) Develop a baseline digital substation test environment/simulation workflow for early identification/mitigation of cyber risks in digital substations.
- (v) **Scope of work:** The research will focus on developing, validating, and deploying novel AI-based cyber-secure architectures for process-bus and station-bus environments in IEC-61850-based digital substations where sampled values, GOOSE, MMS, event logs, and condition-monitoring inputs coexist and where utilities increasingly seek edge-native, interoperable, and cyber-secure analytics.
- (vi) Candidates, before appearing for the interview, shall ensure that they are eligible for the position they intend to apply.
- (vii) Candidates desiring to appear for the interview should submit their applications with the following documents to the **Principal Investigator** through email only (**bhavesh.bhalja@ee.iitr.ac.in**) by **08/10/2026**.
 - Detailed CV including chronological discipline of degree/certificates obtained.
 - Experience including research, industrial field, and others.
 - Self-attested copies of the degree/certificate and the experience certificate.
 - Proof of qualifying GATE score (including marks obtained, rank and year of qualification).
- (viii) Preference will be given to SC/ST candidates on equal qualifications and experience.
- (ix) An offline interview will be conducted, and the date will be communicated to the eligible candidates.

Note: The selected candidate may get an opportunity for Ph. D. admission.

Approved

ISubh
22/09/26
(Dr. Bhaveshkumar R. Bhalja)
Principal Investigator

Email: **bhavesh.bhalja@ee.iitr.ac.in**

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