INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
Department of Electronics and Communication Engineering

Dated: ~~17~~-04-2025

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 ~~consultancy~~/research project(s) under the investigators (**Dr. Tharun Kumar Reddy Bollu (PI),** Department of Electronics and Communication Engineering, IIT Roorkee; **Dr. Sanhita Das (PI)**, Department of Civil Engineering, IIT Roorkee; **and Dr. Indrajit Ghosh (Co-PI)**, Department of Civil Engineering, IIT Roorkee).

1. **Title of project**: Path Rakshak (Guardian of the Road) - A System for Enhancing Public Transport Safety with Real-time Ambiance and Driver Monitoring

2. **Sponsor of the project**: IIT Mandi iHub & HCi Foundation

3. **Project position(s) and number**: Junior Research Fellow (1+1), (1) (under PI from Department of ECE, IIT Roorkee) and (1) (under PI from Department of Civil Engineering, IIT Roorkee)

4. **Qualifications**: M.Tech./M.E./M.Sc. in Computer Science and Engineering, Transportation Engineering, Civil Engineering (with specialization in Transportation Systems), Electrical engineering, Electronics and Communication engineering, Automobile Engineering/Automotive Engineering, Mechanical Engineering, Data Science, Machine Learning and Computing, or allied fields with valid GATE/NET (UGC, CSIR, etc.) qualified

   OR

   B.Tech./B.E./B.Sc. in Computer Science and Engineering, Civil Engineering, Electrical engineering, Electronics and Communication engineering, Mechanical Engineering, Industrial Engineering, Automobile Engineering/Automotive Engineering, Data Science, or allied fields. with Valid GATE/NET (UGC, CSIR etc. qualified.

5. **Emoluments**: Rs. 37,000 per month ~~+ HRA (as per Institute Guidelines)~~

6. **Duration**: 24 months

7. **Job description**: The project aims to enhance public transport safety by addressing three key factors viz. driver behaviour, vehicle condition, and external environmental challenges. It involves a comprehensive investigation, experimentation, analysis and development of real-time solutions targeting vehicle condition monitoring, detection of external vehicles and pothole identification across all weather conditions.

   Responsibilities:
   - Conduct extensive field experiments and collect data based on the project requirements.
   - Design and develop algorithms for real-time vehicle condition monitoring.
   - Develop models for detection of external hazards such as surrounding vehicles and potholes.
   - Engage in meetings and discussions with relevant stakeholders.

   Desired Skills:

   - Hands-on experience with machine learning algorithms and image processing techniques
   - Workable experience in programming languages.
   - Comfortable working with hardware related components for vehicle data collection.
   - Excellent interpersonal and communications skills (both oral and written).

Selected candidates will be working in the Department of Electronics and Communication Engineering and Department of Civil Engineering respectively.

1. Candidates before appearing for the interview shall ensure that they are eligible for the position they intend to apply.
2. Candidates desiring to appear for the Interview should submit their applications, along with the following documents at https://forms.gle/uZSKVF4Vm4GEPKSA7 .
   - Latest and detailed CV including chronological discipline of degree/certificates obtained.
   - Experience including research, industrial field and others.
   - Scanned attested copies of degree/certificate and experience certificate.

3. Candidate shall bring along with them the original degree(s)/certificate(s) and experience certificate(s) at the time of interview for verification.
4. Preference will be given to SC/ST candidates on equal qualifications and experience.
5. Please note that no TA/DA is admissible for attending the interview.

The last date for application to be submitted to the Principal Investigator is 05-05-2025 by 5 PM.

The schedule of the interview (ONLINE) will be intimated through email to the shortlisted candidates.

(Sanhita Das)   **(Tharun Kumar Reddy Bollu)**

Tel:
+91-1332-285622
+91-1332-284979

Names and signatures of Principal Investigators

Email: tharun.reddy@ece.iitr.ac.in sanhita.das@ce.iitr.ac.in

*To be uploaded on IIT Roorkee website and copy may be sent to appropriate addresses by PI for wider circulation.

APPROVED

Dean
Sponsored Research & Industrial Consultancy
Indian Institute of Technology Roorkee
Roorkee-247 667 (INDIA)

17/04/25   17/4/25   17/4/25