



INDIAN INSTITUTE OF TECHNOLOGY PATNA
BIHTA PATNA-801106
RESEARCH & DEVELOPMENT UNIT

ADVERTISEMENT NO:R&D/969/DPI/361

DATED: 27/03/2024

Project No: R&D/SP/CSE/DPI/2023-24/969

Applications are invited in the prescribed format only for the following assignment in a purely time bound research project undertaken in this institute.

1. (a) Name of the temporary assignment : Junior Research Fellow (JRF)
(a) Number of Post : 01 (One)
(b) Duration of the Post : 2 Years
2. Name of the temporary research project : **Development and Prototype Implementation of Energy-Efficient Cooperative Content Delivery for Beyond 5G Networks**
3. Name of the sponsoring Agency : SERB
4. Consolidated Fellowship/Salary : Rs. 31,000/- per month + HRA as applicable

5. About the project:

As per the recent Cisco Annual Internet Report, multimedia content will account for 90% of all internet traffic by 2025, an 82% hike compared to 2022. This is due to the increasing popularity of multimedia content, Over-the-Top (OTT) platforms, and feature video content. Further, due to the enhanced internet speeds and bandwidth capacity of the 5G and beyond 5G networks, higher quality video formats, such as 4K and 8K, are expected to become more common. In particular, Cisco predicts that by 2025, 54% of all internet video traffic will be high-definition (HD) and ultra-high-definition video. As the demand for ultra-HD multimedia content continues to grow, it is becoming increasingly important to develop energy-efficient solutions that can meet this demand while minimizing energy consumption and carbon emissions. Network operators must significantly increase the network capacity to cope with the massive number of connected devices and their demand for ultra-HD multimedia content. However, traditional approaches such as infrastructure upgradation (e.g., from 5G to 6G) and network densification are time-consuming and costly, which may not match the requirements of the perpetual demand for multimedia content. This calls for innovative energy-efficient content delivery mechanisms and network monetization models for the beyond 5G networks. Consequently, this project aims to develop an energy-efficient cooperative content delivery system for the beyond 5G networks.

6. Qualifications & Experience

(a) M.Tech./M.E/M.S. degree in CS/IT/Maths & Comp)/ECE/EE/ or equivalent, with a minimum CPI of 6.5 or 60% of marks. Relaxations for SC/ST/OBC/women/PD will be given as per the GOI norms.

OR

(b) BE/BTech/MCA/MSc in CS/IT/Maths & Comp/ECE/ EE/ or equivalent with CPI of 7.5 or 70%. Candidate should have GATE qualification / NET qualification. Relaxations for SC/ST/OBC/women/PD will be given as per the GOI norms.



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7. Application process

- (a) Candidates interested in this position and satisfying the qualification criteria should write an email (satendra@iitp.ac.in) to the Project Investigator, **Dr. Satendra Kumar, Assistant Professor, CSE, IIT Patna.**
- (b) The subject of the email should read as “JRF Position”. **The last date for receiving this email is 13th Apr 2024.**
- (c) The email MUST include the scanned/pdf copy of duly filled **application form** (see below) with applicant’s signature.
- (d) The email MUST include copy of all supporting documents (degree certificates, mark-sheets, GATE/NET scorecard, and category certificate, if applicable).
- (e) The application should also include a brief **Academic CV** not exceeding two pages.
- (f) IIT Patna reserves the right to not shortlist any candidate in case the application email does not contain complete information backed up by supporting documents as listed above.
- (g) All candidates who apply via email by **13th Apr 2024** (deadline) and are shortlisted will be informed regarding the further details by **15th Apr, 2024** (tentatively). Date of ONLINE Interview: **16th Apr, 2024** (tentatively). It is the responsibility of the applicant to ensure that they have reliable internet connectivity on the date of online interview.

Important Dates:

1. Last Date of receiving Applications by Email: **13th Apr 2024** (tentatively)
2. Shortlisted candidates will be informed by Email: **15th Apr, 2024** (tentatively)
3. Exact Date of Online Interview in Meet: **16th Apr, 2024** (tentatively)

Deputy Registrar (R&D)

Copy to:

1. Associate Dean, R&D, IIT Patna
2. Advertisement file
3. Project file



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PROJECT NO: R&D/SP/CSE/DST/2022-23/750

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FORMAT OF APPLICATION FOR JRF

Name & Address Including email id and Phone no. (for Correspondence)	Category (GEN/OBC/SC/S T/PD)	DOB dd/ mm/yy	Professional Exam. (GATE/CSIR-NET, etc) & Validity
NAME IN CAPITAL Address: Phone: Email:			
Educational Qualification			
Institute/ Board	Exam Passed	Year of Passing	% of Marks/CPI
	Class X		
	Class XII		
	Bachelors (B.Sc/B.Tech/B.E./BCA) or equivalent		
	Masters (M.Sc/M.Tech/M.E/MCA/ MA) or equivalent		

Qualifying degree	Degree/ major/Specialization
(B.Sc/B.Tech/B.E./BCA)	
(M.Sc/M.Tech/M.E/MA/MCA)	
Others	

Date:
Place:

Signature of applicant