

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE  
Department of Bioscience and Bioengineering


Dated: 15/03/2023

**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 (Name: **Dr. Jitin Singla**), Department of Biosciences and Bioengineering and Department of Computer Science and Engineering, Indian Institute of Technology (IIT) Roorkee.

1. Title of project: Modeling and characterization of mitochondrial network in Soft X-ray tomograms and Machine/Deep Learning based mitochondria segmentation
2. Sponsor of the project: Chellaram Diabetes Research Center
3. Project position(s) and number: Project Associate and 01
4. Qualifications: Candidates that fulfil following qualification criteria are encouraged to apply for the position:
  - a. Minimum of 4-year bachelor's degree with working knowledge of:
    - i. Intermediate to Advance experience in Python.
    - ii. Background in algorithms/machine learning/deep learning.
5. Emoluments:  
Year I and II: 31,000 pm + 8% HRA
6. Duration: 2 years or till the project lasts. The position will be renewed every 6 months based on performance.
7. Job description: The job is primarily focused on developing methods and pipeline for image segmentation and characterization of mitochondrial network from X-ray tomograms (3D images). The following subtasks are to be accomplished in the project:
  - a. Develop ML/DL based image segmentation method to extract mitochondria mask from 3D cell images.
  - b. Develop and find distinctive features to model and characterize mitochondria.
  - c. Developing a python package to automate and provide easy-to-use functionalities to run the complete analysis pipeline.

Therefore, prospective candidate is expected to have a good programming experience as well as strong background and understanding of algorithms. Other research activities may include participating in research discussions with collaborators from national and overseas universities and research centers.



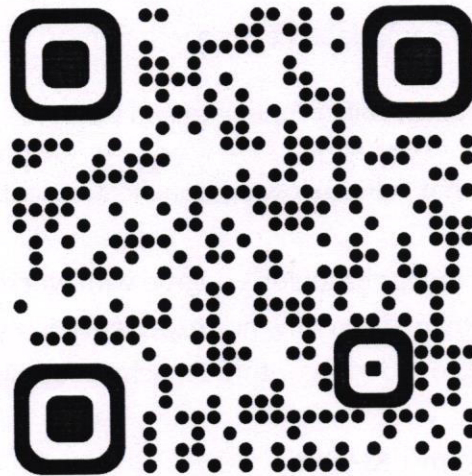
8. Terms:

- a. Candidates before appearing for the interview shall ensure that they are eligible for the position they intend to apply for. Qualifications for the position are mentioned in point 4.
- b. Candidates should also make themselves familiar with job description (Point 7) beforehand.
- c. Candidates desiring to appear for the Interview should submit their applications through the online form for which link and QR code is given below. Candidates will require following documents for filling the online form:
  - Detailed CV including chronological discipline of degree/certificates obtained, papers published, research experience, etc.
  - Copies of degree/certificate and experience certificate.

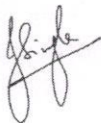
Form link: <https://forms.gle/hNQGEti13JRWp3uW9>

Or

Scan the QR code:



- d. Please note that no TA/DA is admissible for attending the interview.
- e. The last date for application submission is 29<sup>th</sup> March 2023 by 5 PM.
- f. The interview will be held online via Zoom on 31<sup>st</sup> March 2023 at 11:00 AM.
- g. The project position starts at the earliest possible.



(Jitin Singla)

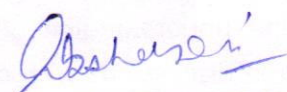
Name and Signature of Principal Investigator

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APPROVED

  
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भा. प्रौ. सं. रुड़की/IIT Roorkee

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