इंडियन इंस्टीट्यूट ऑफ टेक्नोलॉजी दिल्ली
हौज खास, नई दिल्ली -110016
(औद्योगिक अनुसंधान एवं विकास इकाई)
INDIAN INSTITUTE OF TECHNOLOGY DELHI
Hauz Khas, New Delhi-110016
(Industrial Research & Development Unit)

No. IITD/IRD/RM00150G/528901

Dated:04/07/2026

Advertisement No.: IITD/IRD/77/2026

Applications from Indian nationals are invited for Project Appointment under the following project. Appointment shall be on contractual basis with consolidated pay subject to periodic performance review, and renewable yearly or upto the duration of the project, whichever is earlier. निम्नलिखित परियोजना के तहत भारतीय नागरिकों से आवेदन आमंत्रित किए जाते हैं। अपॉइंटमेंट, अनुबंधित आधार पर समेकित वेतन, नवीकरणीय वार्षिक या परियोजना की अवधि तक, जो भी पहले हो, के साथ होगा.

Title of the Project	An Optimization and AI-Driven Indigenous Decision-Support Platform for Preoperative Planning of High-Impact Orthopedic Surgeries. (RM00150G)	
Funding Agency	Anusandhan National Research Foundation, Science and Engineering Research Board	
Name of the Project Investigator	Prof. Prashant Palkar [email ID: ppalkar@iitd.ac.in]	
Deptt/.Centre	Dept. of Mechanical Engineering	
Duration of the Project	Upto:19.03.2029	
Post (s)	Consolidated fellowship / Pay-slab	Qualifications
Sr. Project Associate – 01)	Rs.57,000/-p.m. plus HRA @ 27%	**Essential Criteria:** • B.Tech., M.Tech., M.Sc., or equivalent degree in Computer Science, Computational Mathematics, Data Science, Artificial Intelligence, Biomedical Engineering, or a related discipline. • Strong academic or research background in machine learning, computer vision, image processing, scientific computing, or related areas. • Proficiency in Python and familiarity with machine learning frameworks such as PyTorch,TensorFlow, or similar. • Ability to read and implement research literature and work independently on research-oriented projects. **Experience required:** Candidates having B.Tech./M.Sc degree should have 04 years relevant experience and with M.Tech degree 02 years of relevant experience is required. **Candidates with less experience can also apply. If found suitable, the post will be downgraded at the discretion of the Selection Committee as per the approved norms of the funding agency, i.e., Anusandhan National Research Foundation, Science and Engineering Research Board (ANRB).** **Key Responsibilities:** • Develop AI- and data-driven pipelines for the analysis of medical imaging data, including CT and MRI scans. • Design, implement, and evaluate machine learning and deep learning models for image segmentation, anatomical structure identification, anomaly detection, and classification. • Process and analyze medical imaging datasets (including DICOM data), and contribute to data preparation, annotation, and quality assessment workflows. • Formulate and solve optimization models involving anatomical geometry, shape analysis, contour processing, and mechanical or clinical constraints. • Collaborate with clinicians and domain experts for dataset curation, model validation,interpretation of results, and iterative refinement of algorithms. • Participate in the development, testing, documentation, and deployment of research software and analytical tools. Technical Skills • Strong programming skills in Python (strongly preferred) and/or C++. • Solid foundation in machine learning, statistics, optimization, and data-driven modeling. • Experience with deep learning frameworks such as PyTorch, TensorFlow, or equivalent. • Knowledge of computer vision, image processing, pattern recognition, classification, feature extraction, or related computer vision techniques. • Familiarity with data analysis, visualization, and scientific computing libraries. • Ability to work with large-scale datasets and develop reproducible computational workflows.

		• Prior experience with healthcare AI applications with medical imaging data (e.g., CT, MRI, DICOM) and medical image analysis software is a plus. • Experience with Linux, Git, GPU computing, or high-performance computing environments is desirable. • Exposure to modern deep learning architectures, including convolutional neural networks, U-Net variants, vision transformers, or related methods, is desirable. • Exposure to optimization methods, including convex optimization, nonlinear programming, and scientific computing techniques, is a plus. **Preferred Qualifications:** • Prior experience with medical imaging software and platforms such as 3D Slicer, Mimics,or similar tools. • Experience working with medical imaging data (CT, MRI, DICOM) and associated analysis workflows. • Exposure to biomedical imaging, healthcare AI, radiology applications, orthopaedic imaging, or computer-assisted surgical planning. • Experience in 3D reconstruction, volumetric image analysis, geometric modeling, mesh processing, or STL generation workflows. • Familiarity with scientific computing, high-performance computing (HPC), GPU programming, or parallel computing environments. • Exposure to optimization-based modeling, computational geometry, finite element methods, or biomechanics is desirable. • Strong analytical, problem-solving, and communication skills, with the ability to work effectively in interdisciplinary teams involving engineering, computer science, and clinical collaborators. • Evidence of research capability through publications, thesis work, research projects, open-source contributions, internships, or related scholarly activities. • Prior publications in reputable journals or conferences in machine learning, computer vision, medical image analysis, optimization, computational geometry, or related areas will be viewed favorably. • Demonstrated research contributions in computer vision, biomedical imaging, artificial intelligence, scientific computing, or applied machine learning are highly desirable.

The post may be downgraded as per discretion of the Selection Committee if none of the candidate is found suitable for the above post as per the approved norms of the funding agency i.e. Anusandhan National Research Foundation, Science and Engineering Research Board (ANRB) .

The candidates who are interested to apply for the above post should download **Form No. IRD/REC-4** from the IRD Website **(http://ird.iitd.ac.in/rec)** of IIT Delhi and submit the duly filled form with complete information regarding educational qualifications indicating percentage of marks/division, details of work experience etc. **by e-mail with advertisement No. on the subject line to Prof. Prashant Palkar at email id: ppalkar@iitd.ac.in**

IIT Delhi reserves the right to fix higher criteria for short-listing of eligible candidates from those satisfying advertised qualification and requirement of the project post and their name will be displayed on web link **(http://ird.iitd.ac.in/shortlisted) alongwith the online interview details. Only short-listed candidates will be informed for online interview.** In case any clarification is required on eligibility regarding the above post, the candidate may contact to **Prof. Prashant Palkar at email ID: ppalkar@iitd.ac.in**

5% relaxation of marks may be granted to the SC/ST Candidates. In case of selection of a retired/superannuated government employee, his/her salary will be fixed as per prevailing IRD norms. अनुसूचित जाति / अनुसूचित जनजाति के उम्मीदवारों को अंकों की 5% छूट दी जा सकती है. एक सेवानिवृत्त सरकारी कर्मचारी के चयन के मामले में उसका वेतन वर्तमान आईआरडी मानदंडों के अनुसार तय किया जाएगा।
The last date for submitting the completed applications by e-mail is 20/07/2026 by 5.00 p.m.

06/07/2026

कार्यवाहक प्रमुख (आईआरडी स्थापना)

वितरण

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