



# National Institute of Technology Goa

(An Institution of National Importance under MHRD, Govt. of India)

Department of Computer Science and Engineering

## Advertisement for the Position of Junior Research Fellow (JRF)

Dated: 14<sup>th</sup> Sep 2017

Applications are invited from the interested candidates for the post of one JRF position to work on the R&D project titled “**Enhanced Automation of 3-Axis CNC Milling Machine using Computer Vision and Artificial Intelligence**” sanctioned by Science and Engineering Research Board (SERB), New Delhi. The staff will be appointed initially for one year (on contract) and their services will be extended for one year more based on the performance review.

| Name of the Position       | Duration                                                          | Consolidated Salary                      | Qualifications                                                                                                                                                                                      | No. of Positions |
|----------------------------|-------------------------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| JRF-Junior Research Fellow | Initially for the period of <b>one year</b> which may be extended | Rs. 30,000/-<br>(Per month consolidated) | B.E./B.Tech with NET/GATE or M.E./M.Tech in CSE/IT with strong knowledge in <b>JAVA</b> programming, Python, Optimization technique, Computer vision, Artificial intelligence, Computer networking. | One              |

### **Project Summary:**

Rapid prototyping or Mould Creation using 3-Axis CNC machine poses a huge barrier for a person from non-mechanical background because machining techniques have a steep learning curve. Moreover, demand of faster prototyping exceeds that of available machinist leading to a demand- supply problem in this area. This can be addressed by automation of operations performed by machinist while machining an object. Typically, a design goes through feasibility analysis followed by setup orientation generation and operation planning. The aim of this project is to automate these phases using techniques from Computer Vision and Artificial Intelligence so that machining using 3- Axis CNC becomes “one click” process. Moreover, the aim is to speed up toolpath by taking into account the set of toolbit provided by user. We achieve this by recommending toolbit for toolpath such that overall machining time will reduce. All our contribution through this project will be added to existing open source CAM so that our work reaches a wider community of users. Contribution through this project will speed up mass manufacturing by eliminating the time spent in toolpath planning which will result in higher throughput.



# National Institute of Technology Goa

(An Institution of National Importance under MHRD, Govt. of India)

Department of Computer Science and Engineering

It will also reduce the barrier to machining for users leading to widespread adoption of personal fabrication.

## APPLICATION FORM

Application form (as given below) giving all the details and attested copies of certificates, supporting documents and experience should reach the undersigned **latest by 30<sup>th</sup> Oct 2017**. Candidates who are already employed should produce relieving certificate from their employers, if selected. The written test/interview will be conducted for all the eligible candidates. The applicants need to bring all the original documents for verification during written test/interview. The list of shortlisted candidates will be posted in the NIT Goa website ([www.nitgoa.ac.in](http://www.nitgoa.ac.in)) along with the date and time of the written test/interview.

NOTE: The envelope containing the application should be super scribed as “Application for the position of JRF under SERB project on **3-Axis CNC Milling**”.

### Attention:

1. The applicant will be responsible for the authenticity of information, other documents and photographs submitted.
2. The Institute reserves the right to accept application at any time, and consider candidates of exceptional credentials without applications. Qualification and experience may be relaxed by the Institute at any point of time for otherwise exceptional candidates.
3. Shortlisted Candidates will be informed by email (apart from website) about the interview date. So, the Candidate must provide valid E-mail IDs in their applications.
4. Shortlisted candidates have to present themselves for the interview on the interview date with updated CV and original and attested photocopies of mark sheets/ certificates in support of their academic qualifications.
5. Applicants in employment (private, government or any other organization) are required to submit a “No Objection Certificate” from the employer at the time of interview.
6. No TA/DA will be paid for appearing in the interview.
7. Last date for receiving the duly filled in application is **October 30, 2017**.

## ADDRESS FOR CORRESPONDENCE

Assistant Registrar,  
National Institute of Technology Goa,  
[Inside GEC Campus, Near Govt. ITI]  
Farmagudi, Ponda, 403401  
Goa- India,  
Mobile : 07030773874  
Phone: 0832 - 2404212  
E-mail: [pravati@nitgoa.ac.in](mailto:pravati@nitgoa.ac.in)



# National Institute of Technology Goa

(An Institution of National Importance under MHRD, Govt. of India)

Department of Computer Science and Engineering

## Application Form for JRF under SERB

1. Name of the Candidate (BLOCKLETTER): \_\_\_\_\_

2. Father's Name (BLOCKLETTER): \_\_\_\_\_

3. Mother's Name (BLOCKLETTER): \_\_\_\_\_

4.

a. Date of Birth: (DD/MM/YYYY): \_\_\_\_\_

b. Sex (Male/Female/Other): \_\_\_\_\_

c. Marital Status: Married/Single: \_\_\_\_\_

d. Category: SC/ST/OBC/PWD/General: \_\_\_\_\_

5. Previous research or industry Experience: (use additional sheet if required):

6. NET/GATE: Qualified (Yes/No): Score: \_\_\_\_\_ Rank: \_\_\_\_\_ Year: \_\_\_\_\_

Specialization: \_\_\_\_\_ Year: \_\_\_\_\_

7. Academic Qualification: (Starting from Standard 10 or equivalent Examination)

| Name of Exam Passed | Name of the School/College/Institute/University | Year of Passing | Discipline/Specialization | Percentage of Marks/CGPA |
|---------------------|-------------------------------------------------|-----------------|---------------------------|--------------------------|
|                     |                                                 |                 |                           |                          |
|                     |                                                 |                 |                           |                          |
|                     |                                                 |                 |                           |                          |
|                     |                                                 |                 |                           |                          |
|                     |                                                 |                 |                           |                          |

Paste here a recent Passport size Photograph



# National Institute of Technology Goa

(An Institution of National Importance under MHRD, Govt. of India)

Department of Computer Science and Engineering

---

8. Address for Communication: (BLOCKLETTER) \_\_\_\_\_

9. Contact No. (Phone/Mobile): \_\_\_\_\_

10. Email-ID: \_\_\_\_\_

11. Any other relevant information (use additional sheet if required):

## Declaration

I do here by declare that the information furnished in this application is true to the best of my knowledge and belief. If selected, I promise to abide by the rules and regulations of the Institute.

Date:

Place:

Signature

*Note- If any information is required, extra A4 sheet may be attached.*