



## SERB VRITIKA PROGRAM (ACCELERATE VIGYAN SCHEME)

### Training and Skill Internship on

### Implementation of Real-Time Image Processing Applications using Machine Learning Algorithms on Nvidia GPU

(5<sup>th</sup> July to 4<sup>th</sup> August, 2023)

Organized by

National Institute of Technology, Jamshedpur

Funded by Science and Engineering Research Board (SERB)-DST

#### Scope of the Program 'Vritika':

'Vritika' is the call for initiation and practice in science through Training and Skill Internship. This program aims to create a strong interest towards scientific and engineering research and to provide technical insight in the field of Science & Engineering through this internship. These internships will primarily be facilitated by organizations/ institutions/ laboratories of national importance.

#### About NIT Jamshedpur:

National Institute of Technology, Jamshedpur, earlier known as Regional Institute of Technology was established on 15<sup>th</sup> August 1960 as a joint venture of the Government of India and the Government of Bihar in the chain of REC's (Regional Engineering College) in India with the aim to generate technical graduates of highest standards who could provide technical leadership to the region. Over the years the college has established itself as a premier Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech and Ph.D programs in various specializations.

The Department of Electronics and Communication Engineering was started in 1989. The Department covers a host of subjects, inclusive of Electronic Circuits, Microprocessor, Digital Signal Processing, Analog Communication, Digital Communication, Mobile Communication, VLSI, Embedded Systems, Internet of Things, Machine Learning, Artificial Intelligence, Sensors, Soft Computing etc. The Department has highly motivated faculty members with research scholars working in various research areas.

#### Programme Objective:

This internship program aims to develop a skill for internship P.G. students from universities/colleges/institutes. The internship program will provide them with opportunities to know a broad view of Real-Time Image Processing Applications using Machine Learning Algorithms. Machine learning is the major technology in current scenarios. The advancements in Machine Learning create a good rise in the technological industry. Machine Learning goes ahead in developing a more intelligent computer system that adapts, evolves and learns. This has tremendous applications in industry, defence, healthcare, agriculture, etc. This internship will be a platform for gaining knowledge in Real-Time Image Processing Applications using Machine Learning Algorithms on Nvidia GPU.

#### Who can Apply?

The interested ME/M.Tech/PhD (Pursuing) students in Electronics and Communications Engineering (ECE)/ Computer Science Engineering (CSE)/ Information Technology (IT)/ CSE (Artificial Intelligence and Machine Learning) and/or PhD students having related research areas are eligible to apply.

#### How to Apply?

The Applicant must upload the scanned copy of the duly filled-in application form and all required documents and certificates mentioned below (PDF File only) to the following link before 15<sup>th</sup> June 2023.

[https://docs.google.com/forms/d/e/1FAIpQLSd-nFPnZ9B8i4Pbb5TJpaGqfbctK3Q9vObGUeMiiLIUKXUVg/viewform?usp=pp\\_url](https://docs.google.com/forms/d/e/1FAIpQLSd-nFPnZ9B8i4Pbb5TJpaGqfbctK3Q9vObGUeMiiLIUKXUVg/viewform?usp=pp_url)

#### Document Attaching Order (In single pdf file):

1. Filled & Signed Application Form (Annexure -I)
2. Endorsement cum No Objection Certificate (Annexure -II)
3. Signed Undertaking Form (Annexure -III)
4. P.G Semester Mark sheets and U.G Degree (Self-Attested)
5. Resume (Not exceeding two pages)

#### Nature of support:

- The internship will be **freely given** for meeting daily necessary expenses such as **stationery, consumables, accommodation, food, etc.**
- The participating students will also be eligible for **Travelling Allowance (TA)** reimbursement for their journey to the host institute from their hometown/home institute, both ways, as per GoI norms (Economic Sleeper Train/Bus Fare).

#### Selection Process:

Selection of interns will be done by the concerned Department of the organizing institute:

- Academic performance in university examinations (CGPA/Percentage of marks).
- Academic/co-curricular contests participated, and other awards/distinctions were obtained.

**Note:** A list of selected candidates shall be intimated through email.

**Caution:** NO benefit/certificate would be provided for the student dropping/leaving/partially attending the Training and Skill Internship.

#### Important dates:

Last date (Application)	15 <sup>th</sup> June, 2023
Selection List by E- mail	20 <sup>th</sup> June, 2023
Duration	5 <sup>th</sup> July to 4 <sup>th</sup> August, 2023

#### Event Coordinator:

**Dr. Hathiram Nenavath,**  
Assistant Professor,  
ECE Department,  
National Institute of Technology Jamshedpur,  
Email: [hathiram.ece@nitjsr.ac.in](mailto:hathiram.ece@nitjsr.ac.in)  
Mobile No: +91- 9000747143.  
Website: <https://www.nitjsr.ac.in/people/profile/EC119>

#### Registration Link:

[https://docs.google.com/forms/d/e/1FAIpQLSd-nFPnZ9B8i4Pbb5TJpaGqfbctK3Q9vObGUeMiiLIUKXUVg/viewform?usp=pp\\_url](https://docs.google.com/forms/d/e/1FAIpQLSd-nFPnZ9B8i4Pbb5TJpaGqfbctK3Q9vObGUeMiiLIUKXUVg/viewform?usp=pp_url)

For more information, visit: <https://www.nitjsr.ac.in/>

**SERB SPONSORED FREE INTERNSHIP PROGRAM**  
Number of Seats Available: **5 Only**



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**Annexure - I**  
**Application Form**

1.	Full Name of the Applicant (Full name as described on certificate)	
2.	Email	
3.	Contact Number	
4.	Correspondence Address	
5.	Degree Pursuing (M. Tech./M.E./PhD)	
6.	Degree Specialization	
7.	Name of the Institution/University/College	
8.	Department/ Division/School	
9.	Institution/University/College Address	
10.	CPI/CGPA/Percentage obtained in Degree (Fill whichever applicable) *Attach self-attested photocopy of all available mark sheets	
11.	U.G. Degree Completed (B.Tech./ B.E./ Others)	
12.	U.G. Degree Specialization	
13.	Name of the Institution/University/College (U.G. Degree)	
14.	Department/ Division/School (U.G. Degree)	
15.	CPI/CGPA/Percentage obtained in U.G. Degree *Attach a proof for CPI/CGPA/% obtained in UG Degree	
16.	Emergency Contact Person	
17.	Emergency Contact Person's Mobile Number	

**I agree that all the information mentioned are correct and I shall be liable for the same.**

**Place:**

**Date:**

**Signature of the Applicant**

**Annexure – II**

**Endorsement cum No Objection Certificate from the Head of the Department**

(To be given on University/ Institute/ College Letterhead)

This is to certify that:

1. Mr. / Ms. / Mrs. \_\_\_\_\_, is a bonafide student of our University / Institute / College and will assume full responsibility for actively participating in the Training and Skill Internship on **“Implementation of Real-Time Image Processing Applications using Machine Learning Algorithms on Nvidia GPU”** sponsored by **SERB** under the **Accelerate Vigyan Scheme**, and organized by **National Institute of Technology, Jamshedpur**, from **5<sup>th</sup> July to 4<sup>th</sup> August, 2023**.
2. The Applicant is a Full-time / part-time student of our University/ Institute/ College and enrolled in M.Tech/M.E/PhD Programme in ..... Department of ..... University.
3. The candidate has secured \_\_\_\_\_% / CGPA / CPI till date (if applicable).
4. The University/ Institute/ College also endorses the conduct of the Applicant to be of highest order who bears a good moral character.
5. The University/ Institute/ College has “No-Objection” for the candidate participation during the above said period.
6. The candidate, if selected for participation, shall be duly permitted to attend the Training and Skill Internship on physical mode. The University/ Institute/ College may provide the necessary facilitation needed for this purpose.

Date:

Place:

Signature and Seal with name

**(Head of the Department)**

**Annexure – III**

**Undertaking from the Student Applicant**

1. I hereby provide my consent to participate in the Training and Skill Internship titled “**Implementation of Real-Time Image Processing Applications using Machine Learning Algorithms on Nvidia GPU**” organized by **National Institute of Technology, Jamshedpur** upon selection.
2. Vouch for participating in this Training and Skill Internship whole-heartedly and attend all the lab sessions, sincerely with utmost dedication.
3. I shall also be responsible and attentive to involve myself during the discussion/interaction session.
4. I am aware that it is mandatory to attend all the lab sessions, compulsorily qualify the course assessment and submit report in order to successfully avail the certification.
5. I understand that the materials supplied during this Training and Skill Internship are only for educational/academic purpose.
6. Uploading/hosting/sharing any content on any platform shall be unlawful on the grounds of Intellectual Property Rights.
7. Any Proxy participation in the Training and Skill Internship shall invite immediate cancellation of his/her candidature and same shall be reported to parent institution
8. I understand to ensure my physical presence and any support in this regard is to be sought from the Applicant’s parent Institution. The organizing institute shall not be liable for the same.
9. I agree to abide by any other terms and conditions of Organizing Institute and SERB

**Name of the Applicant:**

**Degree (M.E/M Tech/PhD):**

**Institution/College/University:**

**Date:**

**Place:**

**Signature of the Applicant**