

## Call for Research Internship Under Accelerate Vigyan - Vritika

### Title: Emerging Device Based Artificial Neurons and Synapses (DeBANS): From Understanding to Implementation

**About IITDM Kancheepuram:** IITDM Kancheepuram is an Institute of National Importance established by the Ministry of Education, Government of India to pursue design and manufacturing oriented engineering education and research and to promote the competitive advantage of Indian products in global markets. The Institute offers B.Tech, M.Tech and M.Des programmes and Ph.D programmes in Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Interdisciplinary Product Design, Mathematics, Physics and English.

**About VRITIKA (Training and Skill Internship):** VRITIKA is the call for initiation and practice in science through Training and Skill Internship. This program aims to provide opportunities to promising PG students from universities and colleges to get exposure and hands-on research skill development experience. These internships will primarily be facilitated by organizations /institutions/ laboratories of national importance.

**Objective and scope of this internship program:** Neuromorphic computing is the way to understand and model the biological behavior of human brain to carry out brain-like computation. Numerous efforts are being made for hardware implementations of devices/circuits/systems that can mimic the computations of the human brain, thereby leading to energy-efficient neuromorphic systems. The primitives of a neuromorphic hardware comprises of neurons and synapses that are inspired from their biological counterparts. The internship is intended to understand and implement the device based neurons and synapses with energy efficiency.

#### Who can apply ?

Regular PG-level Candidate (M.Tech. / M.E. / M.Sc. students), Ph.D. scholars pursuing their degree from Indian University / Institution.

#### How to apply & selection process:

Candidates shall apply for the Internship program by filling the following Google form:

[https://bit.ly/vritika\\_needlab](https://bit.ly/vritika_needlab)

Final selection shall be based on an online interview

#### Details of Internship:

- ◆ Duration - Nov 15, 2022 - Jan 15, 2023
- ◆ Domain of Internship - Nanoelectronic devices for Neuromorphic Computing
- ◆ Number of Interns Required - 05
- ◆ Date for Submission of Application: Oct 12 - Oct 31, 2022.
- ◆ Shortlisted Candidates for Interview shall be informed by email: Nov 02, 2022.
- ◆ Interview to be held online: Nov 04, 2022.
- ◆ Announcement of the selected candidates: Nov 05, 2022.
- ◆ Reporting date for confirmed Candidates: Nov 15, 2022.
- ◆ Venue: **NEED Lab**, Academic Complex, IITDM Kancheepuram
- ◆ No stipend will be provided for the internship.
- ◆ Boarding & lodging, travel expenses for the internship period, other contingency expenditures as approved under VRITIKA'22-23 scheme.

#### Event Organizer:

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