



**Science and Engineering Research Board (SERB)
sponsored
Summer Research Internship Under Accelerate
Vigyan – VRITIKA
on
Interpretable Machine Learning towards
Precision Medicine**

**Organized by
Indian Institute of Information Technology Guwahati**

(25 May – 23 July, 2023) *

About IIIT Guwahati

Indian Institute of Information Technology Guwahati (IIITG) is an institution of National Importance under an Act of Parliament (The Indian Institutes of Information Technology (Public-Private Partnership) Act, 2017). It offers B.Tech. courses in Electronics and Communication Engineering (ECE) and Computer Science Engineering (CSE), M.Tech. courses in CSE and ECE and runs PhD programmes in ECE, CSE, Mathematics, and Humanities and Social Sciences (HSS). IIITG is one of the 20 IIITs set up by the Central Govt. in PPP mode. In its very first year when it became eligible, IIITG has got a rank of 66 in the Engineering category of NIRF 2020.

About SERB

SERB has a vision to position science and technology as the fulcrum for social and economic change by supporting competitive, relevant and quality scientific research and development. As the premier national research funding agency, the mission is to raise the quality and footprint of Indian science and engineering to the highest global levels in an accelerated mode, through calibrated, competitive support of research and development.

Although a nascent organization, SERB can trace its existence to the erstwhile Science and Engineering Research Council (SERC), a division of Department of Science & Technology that provided extramural funding for Science & Technology research in India for more than four decades. Creation of SERB, in 2011, is considered as an important institutional milestone in the Indian Science & Technology ecosystem.

About Accelerate Vigyan

“Accelerate Vigyan” (AV) strives to provide a big push to high-end scientific research and prepare scientific manpower which can venture into research careers and knowledge-based economy. Recognizing that all research has at its base the development of quality, well-trained researchers; AV will initiate and strengthen mechanisms of identifying research potential, mentoring, training and hands-on workshops, on a broad-based national scale. The aim is to expand the research base in the country, with three broad goals - consolidation / aggregation of all scientific training programs, initiating High-End Orientation Workshops and creating opportunities for Training and Skill Internship.

Objectives of the Internship

- Familiarize with state-of-the-art **deep learning** models and **visualization techniques** to interpret the deep learning models.
- Provide hands-on training with **Python** programming and frameworks like **TensorFlow** and **Keras** for building learning models.
- Study the application of machine learning in **precision medicine** through identification of multifactorial diseases like cancer which can be regulated through cellular activities like **splicing**.
- Explore publicly available datasets like **GENCODE** for understanding and preprocessing genome sequences.
- Extract **biomarkers** from genome sequences regulating cellular activities which can provide biological insights to computational biologists.



* The dates for the internship may vary depending on the release of funds from SERB.

Who can apply?

- Ph.D., PG (M.Tech/M.E./M.S.) or UG final year students pursuing their degree from University/Institute within India.
- Prerequisites: Basic familiarity with Machine Learning and Python programming

Other Important Information for Participants:

- The internship will be conducted in physical mode.
- Registration is free for all participants.
- **Seats are limited (only 5 participants)** and the participants will be selected based on merit/first come first serve.
- Stipend will not be provided for the internship. However, support for daily expenses like accommodation and food will be provided to the interns.
- The interns will be eligible for reimbursement of traveling allowance (TA) for their journey to and from IIIT Guwahati, as per GOI norms.
- After the registration closes, shortlisted candidates will be informed through email.
- Selected candidates will have to acknowledge participating in the internship through return email failing which the waitlisted candidates may be called for attending the workshop.



Address

Indian Institute of Information Technology Guwahati,
IT Park Road, Bongora, Guwahati, Assam - 781015
Visit us at: www.iiitg.ac.in

How to apply?

Participants interested to attend the internship program should register online through the link mentioned below:

<https://forms.gle/mF3XFtGhJKwA1Rss8>

The last date of registration is: **20 May, 2023.**

Internship Organizer

Dr. Aparajita Dutta,

Assistant Professor, Department of CSE,
IIIT Guwahati, Assam, 781015

Email: aparajita.dutta@iiitg.ac.in

Website: <http://iiitg.ac.in/faculty/aparajita/>

For Further Queries

Please write to: aparajita.dutta@iiitg.ac.in