

Short Term Training Program (STTP) on
**Machine Learning Applications in
Biomedical Signal and Image processing**

From 2th – 6th March 2020

REGISTRATION FORM

Name:

Designation:

Organization:

Qualification:

Correspondence Address:

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Tel. (O) (R)

(M)

E-Mail:

Registration Fee is paid in the form of
Cash/DD

Amount

No.....Date

Name of the Bank.....

Accommodation Required: Yes / No

Date: Place:

Signature

Note:

■ Demand draft should be made in favor of
Director, National Institute of
Technology Raipur, payable at Raipur.

■ Photocopies of registration form may be
used.

CHIEF PATRON

Dr. A. M. Rawani, Director, NIT, Raipur

PATRON

Dr. (Mrs.) Shubhrata Gupta, Dean (R&C),
NIT Raipur

CHAIRMAN

Dr. Lata Sheo Bachan Upadhyay, HOD
(Biomedical Engg., NIT Raipur)

COORDINATORS

- Dr. Bikesh Kumar Singh, Assistant Professor, Department of Biomedical Engineering, NIT Raipur.
- Dr. Neelamshobha Nirala, Assistant Professor, Department of Biomedical Engineering, NIT Raipur

Organizing Committee Members

Dr. Arindam Bit

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**One Week
Short Term Training Program
on**

**Machine Learning Applications in
Biomedical Signal and Image processing**

From 2th – 6th March 2020



Organized by

Department of Biomedical engineering



**National Institute of Technology
Raipur-492 010 (Chhattisgarh)**

About the Institute:

National Institute of Technology Raipur situated in the capital of Chhattisgarh, has proven to be 'avant-grade' in the field of science and technology over past few decades in this region. With sweet memory of foundation ceremony by our president Hon'ble Dr. Rajendra Prasad on 14th September 1956. the institute started with two departments namely Metallurgical and Mining Engineering. Later the inauguration of the Institute building was done by our Prime Minister Hon'ble Pt. Jawahar Lal Nehru on 14th March 1963. From 1st December 2005, the institute has become the National Institute of Technology. It is well connected with Mumbai, Delhi and all metro cities by regular flights and is on the main Howrah-Mumbai railway route. The institute is 5 km from the Raipur railways station and 18 km from airport on NH-6, the Great Eastern Road.

About Department:

The Department of Biomedical Engineering came into existence in the year 2003, when Biomedical Engineering is first time introduced in NITs. BME department is now the study and research workplace of approximately 200 students from the 28 states across India. The departments provide an outstanding research environment and offers academic program leading to the award of B. Tech and Ph.D. degree.

Venue:

**Department of Biomedical Engineering
NIT Raipur (CG) – 492 010, INDIA**

Objectives and Scopes

This event is aimed at imparting knowledge and training on the applications of machine learning on biomedical signal and image processing. Expert lectures will be delivered by the faculties from outside and within NIT Raipur. This program will be beneficial to students at undergraduate level, post graduate level, research scholars and young researchers who intend to practice/begin research in biomedical signal /image processing in machine learning paradigm Distinguish features of this program includes lecture session and hands-on training of theory topics delivered. Fundamentals of digital signal processing, digital image enhancement and restoration, image segmentation, medical image processing, speech signal processing, feature extraction techniques, Machine learning techniques and its related applications, Recording and processing of Biomedical Signals like EEG (Electroencephalogram), ECG (Electrocardiogram), PPG (Photoplethysmogram), EMG (Electromyogram), and FNIRs (Functional near infrared spectroscopy) are major topics that will be covered.

This Short-Term Training Program is proposed to give an exposure to students and researchers to understand the concepts of bio-signal/medical image processing, their real time recording and applying machine learning algorithms on it for interpretation and classification. An entire session will be available for the participants to discuss individual problems with the session experts. By the end of the program they will be able to acquire, process and inference about major biomedical signals and images.

Topics to be covered:

Fundamentals of digital signal processing, Digital image enhancement and restoration. Image segmentation. Biomedical signal processing. Signal pre-processing. Speech signal processing. Respiratory sound analysis. Feature extraction from images. Machine learning techniques and their implementation. Deep learning.

Hands-on session on:

Recording and processing of Biomedical Signals like EEG (Electroencephalogram), ECG (Electrocardiogram), PPG (Photoplethysmogram), EMG (Electromyogram), and FNIRs (Functional near infrared), Implementation of machine learning techniques.

Targeted Participants: *Undergraduate, Post graduate and Ph. D. students, Young faculty members/ researchers from academia and industry.*

Registration Fee Details (in INR):

Participants	Amount (in Rs)
Students (UG)	750
Students (PG/Ph. D.)	1500
Faculty	2000
Industry Delegates	4000

Application in the prescribed format with registration fee in the form of Demand Draft drawn in favor of “**Director, NIT Raipur**” must reach the coordinator on or before **29 Feb 2020**. Registration fee includes registration kit and snacks during the program. Fee is non-refundable. Selected candidate will be informed by email as per the schedule. Certificates will be issued to the participants only after attending the complete course.