Online Workshop
On

Recent Trends in Signal Processing and Machine Learning with their Applications

8-12 March 2021

An Initiative of
National Institute of Technology Hamirpur
(An Institute of National Importance)
Hamirpur − 177005, Himachal Pradesh, India

Organized by

Department of Electronics & Communication Engineering

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National Institute of Technology Hamirpur
Hamirpur − 177005, Himachal Pradesh, India.

About the Institution

National Institute of Technology Hamirpur is one of the thirty-one NITs of the country, established in 1986 as Regional Engineering College, as a joint and cooperative enterprise of the Govt. of India and Govt. of Himachal Pradesh. The goals of the institute as embodied in the logo are truly remarkable in their scope of vision. The Institute provides Undergraduate, Postgraduate and Doctorate Education in Engineering, Sciences & Humanities; fostering the spirit of National Integration among the students, a close interaction with industry and a strong emphasis on research, both basic and applied.

About the Department

Established in the year 1988, the Electronics & Communication Engineering (E&CE) Department NIT Hamirpur, HP, has built an International reputation for excellence in teaching, research and service. Electronics engineers are changing the world to a comfortable global home. The information and technology revolution has been built on the advances of Electronics. The E&CE Department takes pride in its high National rankings and the International recognition its faculty has received from their peers.

Department of ECE is making exhilarating progress in areas ranging from microelectronics, signal processing, machine learning, mobile communications to VLSI Design Automation. In labs and classrooms, students draw on the expertise and knowledge of our able faculty, integrating practical, hands-on research experience with challenging and interesting course-work. The department runs M.Tech. in VLSI Design Automation & Techniques (VDAT) since 2006, M.Tech in Communication Systems and Networks and Also has over 30 PhD Scholars involved in various research in the department.

Objective of Workshop

- To present the fundamentals of signal processing and machine learning.
- To present the concept of time, frequency, and time-frequency domain signal analysis.
- To discuss the advancement in the area of wavelet based signal processing.
- To provide a solid foundation of the use of machine learning techniques in signal classification.
- To discuss the recent developments in deep learning such as autoencoders, convolutional neural networks etc.
- To present the potential research directions in the area of Biomedical signal processing.

Resource Persons/Speakers

Faculties/Experts from IITs, NITs, IIITs, Industries and other premier Institutions/Organizations will deliver the lectures.

Number of Participants

Number of participants is limited for this e-Workshop. Application will be accepted **on first-cum-first serve basis**.

Targeted Participants

Faculty members from educational institutes, research scholars, UG/PG/PhD students, and employees from the industries.

Topics to be Covered

Fundamentals of signal processing, time-frequency domain signal analysis, theory of wavelet transforms, empirical mode decomposition, empirical wavelet transform, Fourier decomposition method. Supervised and unsupervised machine learning, deep neural networks, autoencoders, convolutional neural networks. Applications of signal processing and machine learning in the analysis of biomedical signals.

Registration Fee Details

Participants	Amount(in Rs.)
Faculty members or Participants from Academia/R&D Labs	500/-
Students (UG, PG, PhD)	200/-
Participants from Industries	1000/-

Participants should have minimum 80% attendance.

Certificate

e-Certificate will be issued to the participants after successful submitting the feedback form on completion of the online workshop.

Last Date of Registration: 7 March 2021

How to Apply

The interested participants should register by paying the registration fee at SBI-I collect and filling the Google form through the below link:

https://docs.google.com/forms/d/e/1FAIpQLScnj wPzTwjIg_jiYhutM1igOQsBVOdwEHAQyl5VB ZtqLOs3Bg/viewform?usp=sf_link

The SBI-I collect has following steps:

a. Visit SBI collect at https://www.onlinesbi.com/sbicollect/ic ollecthome.htm

b. Click on Proceed after accepting terms and conditions.

c. Select State of Corporate/ Institution: Himachal Pradesh and Type of Corporate/Institution as Educational Institution and click Go.

d. Select Educational Institutions Name: NIT Hamirpur

e. Select Payment Category: WORKSHOP STC FDP CONFERENCE (Last option)

f. Fill up all the details.
   - Write TITLE of e-Workshop
   - Organizing Department

g. Address: Filling Postal code is must
h. Submit the form and generate the receipt.

List of Eminent Speakers

- Prof. S. D. Joshi, IIT delhi

- Prof. Pradip Sircar, IIT Kanpur

- Prof. Ram Bilas Pachori, IIT Indore

- Prof. Anubha Gupta, IIIT Delhi

- Dr. Tapan Kumar Gandhi, Associate Professor, IIT Delhi

- Dr. Maheshkumar H. Kolekar, Associate Professor, IIT Patna

- Dr. Tony Jacob, Associate Professor, IIT Guwahati

- Dr. Ramesh Kumar Sunkaria, Associate Professor, NIT Jalandhar

- Dr. T. Veerakumar, Associate Professor, NIT Goa

- Dr. Ashok Kumar, Associate Professor, NIT Hamirpur

- Dr. Abhijit Bhattacharyya, Assistant Professor, NIT Hamirpur