### **Faculty Development Programme (FDP)**

on

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# Machine Learning Applications in Signal Processing

(4th to 9th June 2019)

Organized by

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

National Institute of Technology, Warangal Under the scheme of Electronics & ICT Academy

(Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI)



#### Preamble:

"Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, Govt. of India (GoI). The jurisdiction of this academy is Telangana, Andhra Pradesh, Andaman and Nicobar Islands, Goa, Puducherry and Karnataka states/UTs. This academy role is to offer faculty development programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, Curriculum development for Industry, Training & Consultancy services for Industry; CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

Machine Learning Usually plays an important role in the transition from data storage to decision systems based on large databases signals such as the obtained from sensor networks, internet services, or communication systems. These systems imply developing both computational solutions and novel models. Signal processing: a field at the heart of science and everyday life. The notion of "signal processing" might seem like something impenetrably complex, even to scientists. However, the fact is that most of them have already being doing it for a long time, albeit in an unconscious way. Acquiring, shaping and transforming data, cleaning it for the sake of improved analysis and extraction of useful information – all of this is what experimental science is about. And by adding ideas of modelling and algorithms, you can arrive at an ensemble of methods that constitutes a scientific discipline in its own right. The aim of the workshop is to contribute to the cross fertilization between the research on Machine Learning methods and their applications to Signal Processing.

#### Major Course Contents:

- > Introduction to Machine Learning
- > Signal Processing and its Applications
- Convolutional Neural Networks for Audio and Video Processing
- > Deep Architectures Modelling and Optimization
- Machine Learning for Signal Processing
- > Application Building using Deep Architectures
- Pattern Recognition and Image Processing
- Speech Signal Processing
- Social Signal Processing

# Hands on session on the above topics will be provided. Faculty Conducting this Programme:

The programme will be conducted by the faculty members from NIT Warangal. Academicians from IITs / NITs / IIITs in concerned field are invited to deliver lectures in the programme. Speakers from industries are also expecting to deliver as part of the course.

#### **Eligibility:**

The programme is open to the faculty of engineering colleges and other allied disciplines in India. Industry personnel working in the concerned/allied discipline can also attend.

#### **Registration Fee Particulars:**

Faculty / Research Scholars : Rs. 2,500/- Only
 SC/ST Faculty : Rs. 1,875/- Only (Should submit Caste Certificate to claim concession)

Industry participants : Rs. 7,500/- Only

SC/ST Concession is only for Faculty of mentioned states. Research scholars are not eligible for SC/ST Concession.

The participants need to send a crossed demand draft (DD) drawn in favor of "E & ICT Academy, NIT Warangal" payable at SBI, NIT Warangal branch or remit the necessary course fee to the Bank as per the details given below.

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Account Name	Electronics & ICT Academy NITW		
Account Number	62423775910		
Name	State Bank of India		
Branch	REC Warangal (NIT Campus)		
Branch Code	20149		
IFSC	SBIN0020149		

#### **Accommodation:**

All the selected participants will be provided FREE boarding & lodging in the institute. No TA will be paid for the participants.

#### How to Apply:

A filled in form of application in the prescribed format duly signed and sponsored by appropriate authorities (along with DD/NEFT Receipt) should reach the coordinator by speed post. It is also mandatory to send scanned application form and DD/NEFT receipt through e-mail to <a href="mailto:sp.nitw@gmail.com">sp.nitw@gmail.com</a> as selection will be intimated only through mail.

#### **Selection Criteria:**

Selection will be done based on *first-cum-first-serve basis* to a maximum number of **50** (**fifty**). Additionally 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-*mail*. In case a candidate is not selected, the demand draft will be sent back. A test will be conducted at the end of the course. Candidates will be issued satisfactory certificates on successful completion of the course along with the assessment test. Reservations are followed for selecting candidates as per **GOI** norms.

#### **Important Dates:**

Last date for submission of application : 28<sup>th</sup> May, 2019
Selection-list intimation/display before : 31<sup>st</sup> May, 2019
Duration of Program : 4<sup>th</sup> to 9<sup>th</sup> June, 2019

#### **About the Institute, Department and Warangal:**

National Institute of Technology (formerly Regional Engineering College), Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institution 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 offers B.Tech. course in ECE, M.Tech. courses in Advanced Communication Systems (ACS), VLSI Design and Electronic Instrumentation. The Department has experienced faculty with good publications and well-established laboratories. The Department has liaison with reputed industries and R&D organizations.

Warangal is known for its rich historical and cultural heritage. It is situated at a distance of 140Km. from Hyderabad. Warangal is well connected by rail and road. National Institute of Technology campus is 2 Km. away from Kazipet station and 12Km. away from Warangal station.

# **Faculty Development Programme (FDP)**

# Machine Learning Applications in Signal Processing (4<sup>th</sup> to 9<sup>th</sup> June 2019) Organized by DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING National Institute of Technology, Warangal Under the scheme of Electronics & ICT Academy (Samuel State St

(Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI)

# APPLICATION FORM

1.	Name of the Applicant:			
2.	Designation:	3.	Institution :	
4.	E-mail ID :	5.	Mobile No. :	
6.	Category	7.	Payment Mode	
	☐ Faculty/Scholars	(Rs. 2,500/-)	☐ Demand Draft No:	
	☐ SC/ST Faculty from mentioned states	(Rs. 1,875/-)	□ NEFT/ UTR No.:	
	☐ Industry Participants	(Rs. 7,500/-)	Bank : Date :	
8.	Address for Correspondence :	9.	Subjects taught so far:	
10. Educational Qualifications with specialization :				
11. No. of refresher courses/workshops attended :				
12. Experience (in years): Teaching Research Industry				
13. Do you belong to reservations SC/ST ( YES / NO ) : If YES, please specify* * Attach photo copy				
14. Do you require accommodation during Training : YES / NO				
Declaration  The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the FDP and shall attend the course for the entire duration. I also undertake the responsibility to inform the Coordinator in case, I am unable to attend the course.				
Pla Dat			Signature of the Applicant	
Dai		NCODCHID CEI		
Dr./Mr./Ms. is an employee of our Institute/Organization and is hereby sponsored to participate in the FDP on "Machine Learning Applications in Signal Processing" sponsored by Electronics & ICT Academy during 4th to 9th June, 2019 at NIT Warangal.				
Pla	ce :			
Dat			Signature of Principal / Head of Institution	
Pos	dress for correspondence st your application form along with DD/NE ceipt to		ail the scanned copies of filled-in and duly signed plication form with DD to	
Prof. T. Kishore Kumar, Coordinator,			o.nitw@gmail.com	
Department of Electronics and Communication Engineering, National Institute of Technology, Warangal,		igineering, Fo	r any enquiry contact:	
	rangal, Telangana - 506 004.	Mo	obile: 8332969353 Office: 0870 –2462440	
For	For more details about Electronics and ICT academy please visit: http://www.nitw.ac.in/eict/			