

## Two Weeks Faculty Development Programme on

# AI for Communication and Signal Processing Applications

(18<sup>th</sup> April– 29<sup>th</sup> April 2022)

Organised by  
**School of Electronics and Communication Engineering**

in association with  
**Electronics & ICT Academy, NIT Warangal**

(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, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy's role is to offer Faculty Development Programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

### About the FDP:

The FDP on Artificial Intelligence (AI) for Communication and Signal Processing Applications focuses on providing an introduction on the impacts of Artificial Intelligence in the fields of communication and signal processing. AI techniques are widely used for many applications such as Wireless Communication, Bio-medical Imaging Processing, Computer Vision, Natural Language Processing, and so on. This course will give the basics and research areas of AI with applications to communication & signal processing. It will help to upgrade the expertise and capabilities of the faculty members of various engineering institutions in India. Experts cover a range of contemporary computing topics and provide with a strong theoretical basis, as well as develop critical analysis and practical skills. This FDP aims to impart knowledge and train on fundamentals of engineering aspects of AI and insights in recent communication & signal processing applications using AI.

### Major Course Contents:

- Introduction to AI/ML and its applications.
- Mathematical foundations of machine learning for signal processing and communication.
- Feature Extraction, dimensionality reduction in ML.
- ML based Regression, Classification and its applications.
- Machine learning based signal processing for software defined and cognitive radio.
- Artificial Intelligence and Machine Learning for 5G/6G Systems.
- Potential limitations of AI solutions in wireless communications.
- Machine learning and Signal processing of large scale datasets and Communications.
- BCI systems and Applications.
- AI/ML for imaging and computer vision applications.
- Basics of Tensor Flow/Keras/PyTorch.
- Working with data pre-processing and data visualization using python.
- Hands-on session using Python/MATLAB.

### Faculty conducting this programme:

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

### Registration Fee Particulars:

Faculty and Research Scholars	Rs.750/-
Industry Participants	Rs.2250/-

Participants need to pay the Registration Fee Online using the following details

### Online Transfer Details

Account Name: Electronics & ICT Academy NITW  
Account No: 62423775910  
IFSC: SBIN0020149  
Bank and Branch: State Bank of India, NIT (REC) Warangal

### How to apply:

Participants are required to fill the online registration form by clicking on the following link:

<https://forms.gle/J92cf3u2Lsq3QgoJ7>

### Selection Criteria:

Selection will be done based on first-come-first-serve basis to a maximum number of 60 (sixty). 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 DD will be sent back. Candidates will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selecting candidates as per GOI norms.

### Important Dates:

Last date (Application & DD)	14.04.2022
Selection List by E- mail	15.04.2022
Duration	18.04.2022 to 29.04.2022

### About NIT Warangal:

National Institute of Technology, 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 Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech. and Ph.D programmes in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

### About REVA University:

REVA University has been established under the REVA University Act, 2012. The University is located in Bengaluru on a sprawling green campus; spread over 45 acres of land, built with state-of-the-art infrastructure creating an environment conducive to higher learning and research. The founder of REVA University believe in the motto 'Knowledge is Power'. Driven with a philanthropic vision and a missionary zeal, the campus is built to transform students into outstanding citizens. The University prides itself in contributing to the holistic development of every student.

The University currently offers 40 Undergraduate Programmes, 30 full-time Postgraduate Programmes, 2 part-time Postgraduate Programmes, 17 Ph.D. Programmes in various disciplines and several Certificate / Diploma and Postgraduate Diploma Programmes in Engineering, Architecture, Science and Technology, Commerce, Management Studies, Law, Arts & Humanities, and Performing Arts. The programmes offered by REVA University are well planned and designed based on in-depth analysis and research with emphasis on knowledge assimilation, practical applications, hands-on training.

### Vision of the REVA University

"REVA University aspires to become an innovative university by developing excellent human resources with leadership qualities, ethical and moral values, research culture and innovative skills through higher education of global standards"

### Mission of the REVA University

- To create excellent infrastructure facilities and state-of-the-art laboratories and incubation centres
- To provide student-centric learning environment through innovative pedagogy and education reforms
- To encourage research and entrepreneurship through collaborations and extension activities
- To promote industry-institute partnerships and share knowledge for innovation and development
- To organize society development programs for knowledge enhancement in thrust areas
- To enhance leadership qualities among the youth and enrich personality traits, promote patriotism and moral values.

### Vision of the School of ECE

The School of Electronics and Communication Engineering is envisioned to be a leading centre of higher learning with academic excellence in the field of electronics and communication engineering blended by research and innovation in tune with changing technological and cultural challenges supported with leadership qualities, ethical and moral values.

### Mission of the School of ECE

- Establish a unique learning environment to enable the students to face the challenges in the field of Electronics and Communication Engineering and explore multidisciplinary which serve the societal requirements.
- Create state-of-the-art laboratories, resources, and exposure to the current industrial trends to enable students to develop skills for solving complex technological problems of current times and provide a framework for promoting collaborative and multidisciplinary activities.
- Promote the establishment of Centres of Excellence in niche technology areas to nurture the spirit of innovation and creativity among faculty and students.
- Offer ethical and moral value-based education by promoting activities which inculcate the leadership qualities, patriotism and set high benchmarks to serve the society

1. Name :
2. Designation :
3. Institution :
4. Email :
5. Mobile No :

6.	Reference No :	
	Amount :	
	Bank :	
	Date :	

7. Address for Correspondence :
8. Educational Qualification :
9. Subjects taught so far :
10. No. of refresher courses/workshops attended:
11. Experience (in years):  
Teaching:  Research:  Industry:
12. Do you belong to SC/ST : 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.

Date \_\_\_\_\_ Signature of the Applicant \_\_\_\_\_

### SPONSORSHIP CERTIFICATE

Dr. /Mr. /Ms. ....  
is an employee of our Institute/Organization and is hereby sponsored to participate in the FDP on "AI for Communication and Signal Processing applications", sponsored by Electronics & ICT Academy during 18th April – 29th April, 2022 at REVA University, Bengaluru, Karnataka.

Signature of Head of Institution  
(with seal)

### Address for correspondence

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It is requested to all the delegates, after completion of application form, all the payment details, screenshot of the payment and scanned application form has to be uploaded in the following online registration link.

### Registration Link:

For more details about Electronics & ICT Academy, NIT, Warangal, please visit:  
<https://nitw.ac.in/eict>

### Coordinators

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### CHIEF PATRON

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Chancellor, REVA University

### PATRONS

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Vice Chancellor, REVA University

**Dr. N. Ramesh**  
Registrar, REVA University

**Dr. V. S. Bhagavanulu Durbha**  
Dean- IQAC, REVA University

**Dr. B P Divakar**  
Dean | Research and Innovation Council

### CONVENER

**Dr. Rajashekhar C. Biradar**  
Director, School of ECE, REVA University

### CO-CONVENERS

**Dr. Sudharshan K. M.**  
HoD, ECE, School of ECE  
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**Dr. Manjunath R Kounte**  
HoD, ECM, School of ECE  
REVA University

### ADVISORY COMMITTEE

<b>Dr. Rohini Deshpande,</b>	Professor
<b>Dr. R. Venkata Siva Reddy,</b>	Professor
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