

# Online Faculty Development Program

# MATHEMATICAL MODELS

## for Machine Learning and it's Applications

### July 11 - 20, 2022

Jointly Organised by



**ICFAI** Foundation  
for Higher Education  
(Deemed-to-be University under Section 3 of the UGC Act, 1956)

in association with

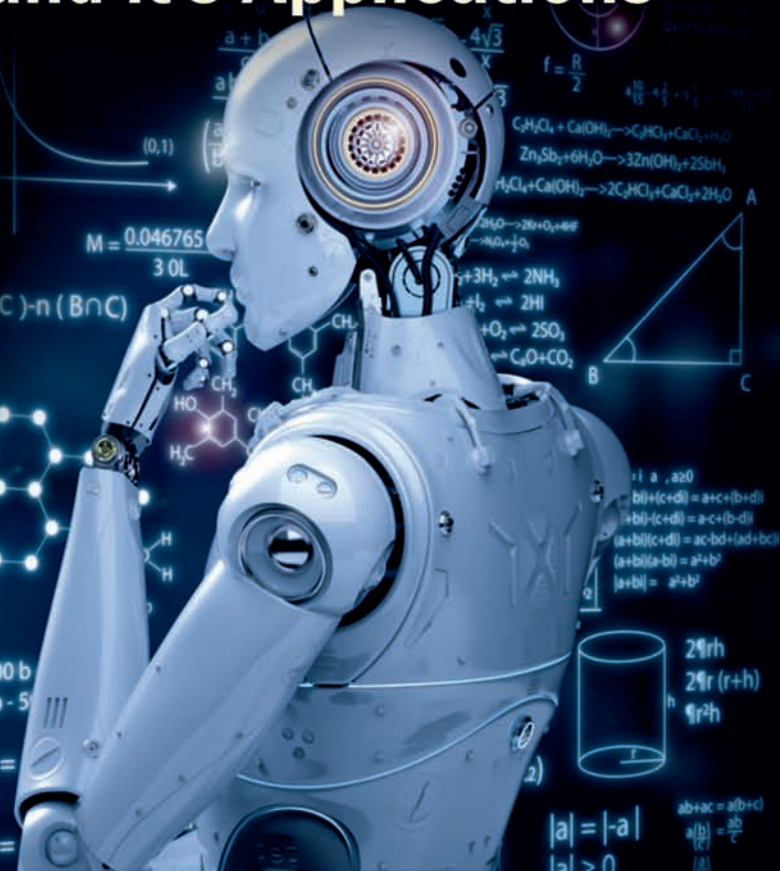


इलेक्ट्रॉनिक्स एवं  
सूचना प्रौद्योगिकी मंत्रालय  
MINISTRY OF  
ELECTRONICS AND  
INFORMATION TECHNOLOGY

$$\log_a(xy) = \log_a x + \log_a y$$
$$\log_a\left(\frac{x}{y}\right) = \log_a x - \log_a y$$
$$\log_a(x) = \frac{\log_b(x)}{\log_b(a)}$$
$$\log_a(x) = \frac{\log_b(x)}{\log_b(a)}$$
$$\log_a(x) = \frac{\log_b(x)}{\log_b(a)}$$

$$a(bc) = (abc)$$
$$a+b = b+a$$
$$a(b+c) = ab+ac$$
$$126 = 6xy$$
$$2x + 2y = 20$$

$$(100^2)a + 100b$$
$$10000a + 100b - 5$$
$$a_n = \frac{1}{2^{n-1}}$$
$$= \frac{1}{2^{n-1}}$$



### About ICFAI Foundation for Higher Education, Hyderabad:

The ICFAI Foundation for Higher Education is a deemed University established under section 3 of the UGC Act, 1956. It has evolved a comprehensive student-centric learning approach consisting of several stages, designed to add significant values to the learner's understanding in an integrated manner, covering relevant knowledge, practical skills, and positive attitudes. IFHE offers UG, PG, and Ph.D. programs in Management (ICFAI Business School), Science and Technology (IcfaiTech), Law (ICFAI Law School) and Architecture (ICFAI School of Architecture). Faculty of Science & Technology (IcfaiTech) is a constituent of The ICFAI Foundation for Higher Education (IFHE). IcfaiTech aims at nurturing graduates and researchers who are critical thinkers, creative, and have a holistic education experience. Innovative methods of teaching, cutting-edge curriculum, workshops, and internships further broaden our students' intellectual and global outlook.



### 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 programs in various specializations. All B.Tech and M.Tech programs of NIT Warangal are NBA accredited.

### Preamble:

"Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, Gol. 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 Programs 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 Faculty Development Program will help to disseminate the knowledge in the domain of AI and Machine learning with python. It empowers the participants to understand how AI can be used to innovate and improve the business process. Machine Learning is a fast-growing field of Artificial Intelligence concerned with the study and design of computer algorithms for learning good representations of data, at multiple levels of abstraction. Since data is overwhelming, organizations are struggling to extract the powerful insights they need to make smarter business decisions. The participants will be trained with hands-on approach in order to have an in-depth insight into the domain of AI & ML and expose them to Feasibility & future scope

### Major Course Contents:

- Introduction to Machine Learning and Image Processing
- Phases of Image Processing
- Research in Machine Learning and Applications
- Machine Learning with Feature Representation
- Feature Selection and Sparse Representation
- Machine Learning Basics – Linear Regression, Perceptron's, Multilayer Perceptron's, Stochastic Gradient Descent, Backpropagation
- Basics of Python
- Decision trees, Naive Bayesian Classification
- KNN, Unsupervised Learning Methods, K-Means
- Dimensionality Reduction Methods, PCA
- Computer Vision Applications: Image Classification, Object Recognition and detection
- Recommendation systems applications
- Natural Language Processing (NLP) Applications
- Current Research – Latest Architectures, Applications and Hands on Sessions and supervised and unsupervised Learning Methods

### Course Delivery:

The program 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 program. Speakers from industries are also expected to deliver as part of the course.

### Registration Fee Particulars:

Faculty and Research Scholars	₹750
Industry Participants	₹2,250

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

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

### How to Register:

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

<https://forms.gle/y9hbeycmBKcHcaEz6> OR



Scan to Register

### 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 Participation Certificates on successful completion of the course. Reservations are followed for selecting candidates as per GOI norms.

### Important Dates:

Last date (Application & DD)	<b>July 09, 2022</b>
Selection List by E-mail	<b>July 10, 2022</b>

It is requested to all the delegates, to take a screenshot of the payment details and scanned application form duly completed and upload on the following link: <https://nitw.ac.in/eict>

### Coordinators

Post your application form addressed to:  
**Dr. Anjanna Matta**  
Coordinator, Department of Mathematics,  
Faculty of Science & Technology (IcfaiTech)  
ICFAI Foundation for Higher Education,  
Hyderabad, Telangana, India - 500 075.  
Cell: 9550160530;  
Email: [anjireddy@iith@ifheindia.org](mailto:anjireddy@iith@ifheindia.org);  
[fdp.eict@gmail.com](mailto:fdp.eict@gmail.com)

**Dr. M. Srinivas**  
Ph.D. (IITH), Post-Doc  
(Academia Sinica, Taiwan and ETS, Canada)  
Computer Science and Engineering  
National Institute of Technology, Warangal – 506 004  
Telangana. Cell: 08897064421;  
Email: [msv@nitw.ac.in](mailto:msv@nitw.ac.in)

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### PARTICIPANT DETAILS

- 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

(If yes, please specify and attach a copy of caste certificate to claim the concession)

### 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 **“Mathematical Models for Machine Learning and it's Applications”**,

sponsored by **Electronics & ICT Academy** during **11<sup>th</sup> – 20<sup>th</sup> July, 2022** at

**IcfaiTech** (Faculty of Science & Technology), **ICFAI Foundation for Higher Education, Hyderabad.**

**Signature of Head of Institution**

(with seal)