**FACULTY DEVELOPMENT PROGRAM ON
AI AND DATA SCIENCE**
20th June to 30th June 2022
3PM to 5PM and 6PM to 8PM
Organized by
**E & ICT Academy, National Institute of Technology,
Warangal**
In Association with
JSS Academy of Technical Education, Bengaluru

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 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 Course:
In recent years, we've seen a resurgence in Artificial Intelligence (AI), and Machine Learning (ML). Machine learning has led to some amazing results, like being able to analyze the medical images and predict diseases on-par with human experts. ML can be embedded into all sorts of different products, and it's used in many industries, like finance, online advertising, medicine, and robotics. It is a widely applicable tool that will benefit the people, working in different industries, R&D organization, etc. Further, the artificial neural network normally used for predictive modelling, adaptive control, etc., where the dataset based training enables it for self-learning and based on this next level predictions can be done from a complex and seemingly unrelated set of information. Generally, the machine learning (ML) approach is considered as the subset of the AI, and the deep learning (DL) is the subset of ML.

Major Course Contents:

➢ **Introduction**
What is Machine Learning, Machine Learning types, Generics of ML approaches, Machine Learning Applications.

➢ **Python Essentials**
Installation, Python Editors & IDE's, Lists, Tuples, Dictionaries, Strings, Data manipulation tools, Importing/exporting data.

➢ **Mathematics for Machine Learning**
Basic probability theory, Random variables, Probability distributions.

➢ **Statistical tests for Data Analysis**

➢ **Probabilistic Inference for Learning**
Markov models, Bayesian learning.

➢ **Regression Analysis**
Univariate linear regression, Multivariate linear regression, Polynomial Regression.

➢ **Classification**
Logistic regression, SVM, Multi-class SVM, Decision trees, Applications.

➢ **Ensemble Approaches**
Bagging, Random Forests, Boosting: Adaboost, Gradient boosting, Applications.

➢ **Optimization**
Gradient descent, Stochastic gradient descent, Batch gradient descent, Evolutionary algorithms.

➢ **Clustering**
Different clustering approaches and applications.

➢ **Feature Engineering**
Feature Scaling, Feature Selection: Filter methods, Wrapper methods, Embedded methods.

➢ **Dimensionality Reduction**
Principal component analysis, Linear discriminative analysis.

➢ **Neural Networks**
Introduction to neural networks, Back propagation algorithm and theory behind,

➢ **Reinforcement Learning**

➢ Markov Decision Process, Planning, Estimation, Control and Applications.

➢ **Hands-on to the majority of the topics using Python.**

➢ **Mathematics behind different ML approaches will be discussed in detail.**

Faculty conducting this programme:

The programme will be conducted in online mode 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.

Eligibility:

The programme is open to faculty of Engineering Colleges, Arts and Science Colleges and other allied disciplines in India. Industry personnel working in the concerned /allied discipline can also attend.

Registration Fee Particulars: Faculty and Research Scholars	Rs. 750/-
Industry Participants	Rs. 2250/-

The fee is to be paid through online transfer 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 in the Online registration form given in the below link:

https://forms.gle/jc3TFeEmmSaNGXGo6

Selection Criteria:

Selection will be done based on first-come-first-serve basis to a maximum number of 100. Additionally, 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-mail. 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 for Registration	6th June, 2022
Selection List by E-mail	13th June, 2022
Duration of the course	20th June, 2022 to 30th June, 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 programs in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

About JSS Academy of Technical Education:

JSS Academy of Technical Education (JSSATE) was established in the year 1997 at Bengaluru and is under the umbrella of JSS Mahavidyapeetha, Mysuru. JSSATE is the result of the vision of our President, His Holiness Jagadguru Sri Shivarathri Deshikendra Mahaswamiji to proactively participate in establishing a world class Institution for Technical Education. JSSATEB has seven Under Graduate and four Post Graduate program in Engineering along with a post Graduate program in Business Administration. All the Departments have been recognized as "research Centres" from VTU, Belagavi. The Institute has highly qualified faculty. The Institute has initiated a number of multidisciplinary and multi-institutional R&D programs with AICTE, DST and other Departments. Under the R & D activity, the Institute has taken up the design and fabrication of bio-diesel plant in collaboration with an industry and it is sponsored by Department of Science & Technology (DST), Government of India. This was recognized as one of the best-completed projects and same is being replicated in different states

Registration Link:

https://forms.gle/jc3TFeEmmSaNGXGo6

For more details about the FDP please visit: https://nitw.ac.in/eict

FDP Coordinators:

Prof. Snehalatha N
Assistant Professor, Dept. of Computer Science,
JSS Academy of Technical Education,
Bengaluru - 560060.

Dr. Venkateswara Rao Kagita
Assistant Professor, Dept. of CSE,
National Institute of Technology,
Warangal, Telangana – 506004.

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FDP Co-Cordinator:

Prof. Rohitaksha K
Assistant Professor, Dept. of Computer Science,
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Bengaluru - 560060.

10 DAYS VIRTUAL FACULTY DEVELOPMENT PROGRAMME (FDP)
ON
"AI AND DATA SCIENCE"
(20th June to 30th June 2022)
Organized by
Department of Computer Science & Engineering, JSSATE, Bengaluru
and
Department of Computer Science & Engineering, NIT, Warangal
In association with
Electronics and ICT Academy, NIT, Warangal
[Sponsored by Ministry of Electronics and Information Technology, (MeitY), GOI]

APPLICATION FORM

SPONSORSHIP CERTIFICATE

1.Name:

2.Designation:

3.Institution:

4. Email:

5. Mobile Number:

6.Payment Details:

Reference/NEFT/UTR No :	
Amount (In Rupees) :	
Bank Name :	
Date of Transaction :	

Dr./Mr./Mrs.
is an employee of our Institute/Organization and is hereby sponsored to participate in an online FDP on " AI and DATA SCIENCE" organized by the Department of Computer Science & Engineering During 20th June to 30th June 2022 at National Institute of Technology Warangal.

Place:

Date:

7. Address for Correspondence:

Signature of Head of Institution(With Seal)

8. Educational Qualification:

Interested faculty members, please fill the following Google Form:

9.Subjects taught so far:

Registration Link:

10. No. of refresher courses / workshops attended:

https://forms.gle/jc3TFeEmmSaNGXGo6

11.Experience (in years):

Address for Correspondence:

Teaching: Research: Industry:

Coordinators of the Program:
Prof. Snehalatha N
Assistant Professor, Dept. of Computer Science, JSS Academy of Technical Education, Bengaluru -560060, Karnatka State, India
Phone No: +91- 9844399176
Email: **snehalathan@jssateb.ac.in**

12. Do you belong to SC/ST: YES / NO

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

Dr. Venkateswara Rao Kagita
Assistant Professor, Dept. of CSE,
National Institute of Technology,
Warangal, Telangana – 506004.
Phone No: +91- 9966456713
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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