



ONE-WEEK ONLINE SHORT TERM COURSE ON
“Artificial Intelligence and Machine Learning”
(28-06-2021 to 03-07-2021)

ACCREDITED BY NAAC



Organized by
UGC – HUMAN RESOURCE DEVELOPMENT CENTRE
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
KUKATPALLY, HYDERABAD, T.S.

About UGC-HRDC, JNTUH:

The UGC-Human Resource Development Centre (formerly known as UGC-Academic Staff College), Jawaharlal Nehru Technological University Hyderabad, was established in the year 2000 and sponsored by University Grants Commission, New Delhi. The UGC-Human Resource Development Centre organizes Orientation Programmes, Refresher Courses, Short Term Courses and Workshops on thrust areas for in-service teachers and also for newly appointed teaching faculty on a regular basis, to update the knowledge and skills in their respective fields.

During the current academic year 2021-22, a one-week Short Term Course on **“Artificial Intelligence and Machine Learning”** is proposed to be organized by UGC-HRDC, JNTUH during 28-06-2021 to 03-07-2021 through ONLINE.

Major Course Contents:

- Introduction to AI, Machine Learning and Its case studies
- Types of Learning - Supervised, Unsupervised, Reinforcement learning - Examples
- Supervised Learning - Exploration of Algorithms - Mathematical Intuition
- Exploratory Data Analysis - Understanding the data and Data Pre-processing- Feature Engineering
- Linear Regression, Logistic Regression, Decision Trees
- SVM, Kernel tricks, The Key Algorithm in Learning - gradient Decent
- KNN, Random Forest - various cases of KNN
- Bagging and Boosting
- Bias/ Variance trade-off, Performance Measures - Precision, Recall, F1-Score, Accuracy
- Python Basics - NumPy, SciPy, Scikit
- Advanced Python for ML - List Comprehension, Lambda Functions,
- Unsupervised Learning - K-Means
- Exploration of Various Datasets - IMDB Movie Reviews, Sentiment140, Stanford Sentiment Treebank - NLP
- Introduction to Artificial Neural Networks
- Back propagation - understanding Math, Chain rule
- Vanishing Gradient Problem - Activation Functions, Loss Functions, Error Measures
- Types of Networks - RNN, CNN, LSTM
- RNN Applications - Sequence Classification, Text Generation, Machine translation, Summarization.

Eligibility:

- The faculty members working in Constituent Colleges and Affiliated Colleges of JNTUH from the departments of **CSE, IT, ECE, EEE, Mechanical Engineering** and related disciplines.
- The faculty members have to be sponsored by the concerned Principal of the College / Head of the Institution for considering the participation in the Programme.

Registration Fee:

- There is **No Registration Fee** for attending the course.
- Certificate will be issued to the participants on successful completion of the course.

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G. Narasimha Murthy
 Technical Officer (In-charge of
 Women's Cell)
 Shaikpet, Hyderabad - 500 104

CHIEF PATRON



Prof. KATTA NARASIMHA REDDY
Vice-Chancellor, JNTUH

PATRONS



Dr. A. GOVARDHAN
Rector, JNTUH



Dr. M. MANZOOR HUSSAIN
Registrar, JNTUH

CONVENER



Dr. G.K. VISWANADH
Director, UGC-HRDC

COURSE COORDINATORS



Dr. S. SURESH KUMAR
Assistant Professor & Head
Dept. of IT,
JNTUH CEJ, Jagtial, T.S.



Dr. Ch. ASHA JYOTHI
Assistant Professor,
Dept. of IT,
JNTUH CEJ, Jagtial, T.S.

How to apply:

- The faculty members desirous to participate in the program are requested to register their details through online mode at <http://jntuhhrdc.in/delegate-registration> on or before 24th June, 2021.
- Filling the online registration form is mandatory.
- A filled-in form of application duly signed by the faculty member and forwarded by the Head of the Institution and sponsorship certificate from the Head of the Institution, should be uploaded in HRDC portal on or before the last date.

Resource Persons:

Resource Persons are drawn from the different Universities, Institutions, Industries and R & D organizations.

Selection Criteria:

Selection will be done based on *first-come-first-serve basis* to a maximum number of 40. The list of selected participants will be intimated through E-mail.

Important Dates:

Last date for the receipt of application through online	:	24 th June, 2021
Intimation of selection to the participants through e-mail	:	25 th June, 2021
Course duration	:	28 th June to 03 rd July, 2021
Course Timings	:	10.00 AM to 1.15 PM & 2.00 PM to 5.15 PM

Instructions to the Participants for Online Course:

- (1) Filling the registration form is mandatory.
- (2) Attendance for all the sessions, Completion of activities, assignments and online tests given by the Resource Persons are mandatory.
- (3) All sessions will be conducted on WebEx/Google Meet
- (4) Link will be provided a day in advance.
- (5) Limited seats are available on First-Come-First-Serve basis.

For further enquiries about the STC

Please contact: 8008103814 (All working days from 10.30 am to 5.00 pm only)
or mail us at: directorhrdcjntuh@jntuh.ac.in

Web: www.jntuhhrdc.in

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REPORT
on
1-Week FDP on "Artificial intelligence and Machine learning"
(28/6/2021 to 3/7/2021)
Organized by JNTUH, UGC-IRDC.

This Faculty Development Programme (FDP) on "Artificial Intelligence and Machine Learning using Python" aims at providing an opportunity to enhance the knowledge about the latest technologies pertaining to Artificial Intelligence and Machine Learning. This FDP would provide participants with the guidelines to explore the area of Artificial intelligence and its applications. The participants would learn to develop methods for solving problems related to diverse computational fields.

Coordinators:

Dr.S.Suresh kumar, Assistant professor and Head Dept of IT, JNTUH, Jagital.T.S.
Dr.ch.Asha Jyothi, Assistant professor, Dept of IT, JNTUH, Jagital.T.S.

Day-1:

Basics of python hands-on in jupyter includes statistical measures and iloc functions and construction of correlation matrix and PCA.

Day-2:

Machine learning algorithms classification- naïve bayes, Decision trees, Regression- linear and non-linear algorithms and k-means clustering.

Day-3:

Neural networks include basics of CNN and Faster R-CNN.

Day-4:

NLP related concepts-Lexicon, concept of Sentimental analysis and language transition softwares.

Day-5:



Ensemble techniques-Boosting, Bagging and random forest.


Day-6:

Hand-on session for ensemble models and one project related to breast cancer.

The outcome of this FDP on "Artificial Intelligence" provides an opportunity to enhance the knowledge about the latest technologies pertaining to AI. This FDP would provide participants with the guidelines to explore the area of Artificial intelligence and its applications. This helps to understand and have more practical sessions.

Participants:

M.Anusha 
Ch.Radhika 


G.Narasimha Murthy, Institute of
Technology & Science (for women)
(AUTONOMOUS)
Shaikpet, Hyderabad - 500 104