## FACULTY DEVELOPMENT PROGRAM On

## "Artificial Intelligence"

## Electronics & ICT Academy IIT Roorkee



In Association with

Inderprastha Engineering College, Ghaziabad UP.



Dec 18, 2017 - Dec 23, 2017 Experts from Industry

(Kovid Academy) Industry Expert



Guest Lecture from Academia
IIT Roorkee

Supported by

Ministry of Electronics & Information Technology Government of India



Inderprastha Engineering College, Ghaziabad UP.

### Objective of the Course

- Identify potential areas of applications of AI
- Basic ideas and techniques in the design of intelligent computer systems
- Statistical and decision-theoretic modelling paradigm
- How to build agents that exhibit reasoning and learning
- Apply regression, classification, clustering, retrieval, recommender systems, and deep learning.

#### Focus Areas

- Basics of AI & Introduction
- Introduction to Python Programming
- Data Structure & Data Manipulation in Python
- Visualization in Python
- Classification/Clustering
- Artificial Neural Networks
- Image Processing With OPENCV

### Program Features

- The program is split into lectures and labs sessions.
- Hands-on experience on basic & advancedlevel topics.
- Interaction & learning with experts from academia & industry.
- Certificates to the participants by E&ICT Academy IITR.

## Benefits and Outcomes of the

#### Course

- The program would help the participants to understand the key concepts behind AI.
- Participants would also acquire the skills needed to work with the cluster algorithm and its popular algorithms k-Means, k-Medians, Expectation Maximization, and hierarchical clustering.
- Participants would be able to learn how to build AI that is adaptable to any environment in real life.

At the end of the program, participants will be able to understand:

- Broad and basic introduction to AI
- Variables, Data Structures, Operators, Functions used in Python & stats (some basic operations)
- Numpy (Data structures and mathematical operations)
- Normalization of values
- Preparing the data for ML (splitting data, validation sets etc.)
- Scikit-learn / image
- Regression: Multinomial
- Clustering: K-Means
- Implications of deep learning on mobility
- Foundation Algorithm Introduction to Neural Networks
- Image classification using CNN

#### Coordinators

- Dr. Sanjeev Manhas, PI, E&ICT Academy, IITR
- Ms. Priyanka D. Gupta (Local coordinator, A.P ECE & Head EDC, IPEC, Ghaziabad)

priyanka.gupta@ipec.org.in, eict@iitr.ac.in +91-9540038914

#### Who Can Attend?

Program is open to faculty members/research scholars/PG students from colleges/universities, and industry personnel working in the concerned/allied discipline.

#### Registration Fee

Faculty members: ₹3000/-Research scholars: ₹3000/-Persons from Industry: ₹4000/-

#### Payment Details

DD in favor of "Dean SRIC IIT Roorkee" payable at Roorkee "OR"

Make Online Payment by NEFT/RTGS on given detail

Account Name: Research Project, IIT Roorkee Account Number: 33012172097 IFSC code: SBIN0001069

#### How to Apply

Step 1: Make Payment Step 2: Participants may fill registration form through Academy website (http://eict.iitr.ac.in).

Step 2: Send a duly filled-in registration form along with Demand Draft to Academy address. Mr. Prateek Sharma, EICT Academy, ECE Department, IIT Roorkee-247667



#### **EICT Academy IITR**

Electronics and ICT Academy (E&ICT) at IIT Roorkee (funded by Ministry of Electronics and Information Technology) aims to enrich and upgrade teaching and research competences of engineering faculties of institutes/colleges by conducting courses and workshops in fundaments as well as emerging areas of E&ICT and enabled areas. The programs are conducted by well-known industry partners, resource persons from leading academia and experts from renowned R&D organizations.



#### Activities of the Academy

- Specialized training on basic and advanced level topics with hands-on experience in the emerging areas of Electronics & ICT.
- Setup the activity centers to conduct FDPs locally at institutes/colleges.
- Curriculum development for the industry.
- Continuing Education Programme for students/working professionals.
- Design, develop and delivery of specialized modules for specific research areas in industry.

# Faculty Development Program on

"Artificial Intelligence"



Dec 18, 2017 - Dec 23, 2017

#### **REGISTRATION FORM**

| Applicant Name             |
|----------------------------|
| Gender:                    |
| Category (GEN/OBC/SC/ST):  |
| Designation:               |
| Name and Address of the    |
| Organizatio/Institute:     |
|                            |
|                            |
| City/Town:                 |
| Email:                     |
| Phone Number:              |
| Do you need Accommodation? |
| Yes/No):                   |
| OD Number:                 |
| Date:                      |
| ssuing Bank:               |
| Payable at:                |
| Signature of the Applicant |

**Contact Us** 

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