

# FACULTY DEVELOPMENT PROGRAM

on

## "Machine Learning & its Applications"

Organised By

**Electronics & ICT Academy  
IIT Roorkee**



Feb 01, 2018 - Feb 05, 2018

**Experts from Academia/Industry**

Dr. Amioy Kumar (Intel, Bangalore)  
Industry Expert

Dr. Balasubramanian Raman  
Department of CSE, IITR  
Academia Expert

Dr. Partha Pratim Roy  
Department of CSE, IITR  
Academia Expert

Supported by

Ministry of Electronics & Information Technology  
Government of India



**Venue**

**IIT Roorkee**

## Objective of the Course

- To familiarize the participants with basic learning algorithms, techniques & their applications, as well as general questions related to analyzing and handling big data sets.
- Several software libraries and data sets publicly available will be used to illustrate the application of these algorithms.
- The emphasis will be thus given on Machine Learning algorithms and applications.
- Knowledge and hands-on training of various software for Machine Learning and applications.
- Introduction of real-life applications of the Machine Learning.
- Training with the recent developments in Machine Learning in industries.

## Benefits and Outcomes of the Course

- The program would help the participants to understand the key concepts behind Machine Learning.
- Participants would also acquire the skills needed to work with the problems of feature extraction methods, regression classification techniques such as supervised, unsupervised and reinforcement.
- Demonstrations of popular software will be done by the expert from the industry.
- Hands-on experience in working with different software will be provided in Machine Learning.
- Interaction with industry person(s) will be established with possible collaborations.

## Focus Areas

- Basic Machine Learning concepts and examples.
- Nearest-neighbor algorithms.
- Support vector machines.
- Kernel methods.
- Decision trees.
- Ensemble methods (Boosting, Bagging).
- Logistic regression.
- Multi-class classification (conditional maxent models, binary classifiers and error-correction codes).
- Regression (linear regression, kernel ridge regression, lasso, neural networks).
- Clustering (K-means, DT clustering).
- Dimensionality reduction (PCA, KPCA).
- Introduction to reinforcement learning.
- An insight on deep learning algorithms.
- Various applications in imaging and video analytics.

## Program Features

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

## Coordinators

Dr. Sanjeev Manhas (PI, E&ICT Academy,  
ECE Dept, IITR)

Dr. Balasubramanian Raman  
(Local coordinator, CSE, IITR)

Dr. Partha Pratim Roy  
(Local coordinator, CSE, IITR)

## 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: ₹2500/-

Research scholars: ₹2500/-

Persons from Industry: ₹3000/-

## 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>).

OR

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

## Important Dates



**Last Date For Online  
Registration:  
29th Jan 2018**

**Last Date For Receiving  
Application: 30th Jan. 2018**



## 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 fundamentals 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

## "Machine Learning & its Applications"



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## 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): \_\_\_\_\_

DD Number: \_\_\_\_\_

Date: \_\_\_\_\_

Issuing Bank: \_\_\_\_\_

Payable at: \_\_\_\_\_

Signature of the Applicant

## Contact Us

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