



February 4-8, 2019

NITTR Kolkata, Block-FC, Sector-III, Salt Lake, Kolkata



Smart systems are the need of modern society. We plan to develop systems intelligent enough to automatically take decisions in complex real-life situations. Thanks to the advancement in processing power, availability of enough training data, and progress in statistical methods that enabled us now to build such systems. Machine learning is gradually becoming mature. We all know its power, ability, and usefulness to designing artificial intelligent systems. This workshop will provide an opportunity to learn ML from an application and mathematical perspective to unfold the magic it manifests. We are bringing leading experts from the industry and academia to jointly teach basic and advanced topics. Aim is to provide in-depth training on modern machine learning tools & techniques along with theoretical aspects. Every lecture would be complemented with lab sessions to expose the attendees to appropriate tools.

### Workshop Topics:

Data Mining, Statistics, Feature, Curse of Dimensionality, Dimensionality Reduction and PCA, ROC Curve, FAR, FRR, CRR, F Measure, Classification: KNN, Decision Tree, Linear Model for regression and classification, Gradient descent and its variants, Regression with basis functions, SVM.

Bayesian Inference using graphical models, Bayesian Belief Networks, Generative models, MAP/ML Hypothesis, Bias Variance decomposition, Expectation Maximization, PAC learner, Hidden Markov Model, Monte Carlo Simulations, Learning Theory, VC-Dimension, Model Selection and Evaluation, Decision Theory, Information Theory.

Mixture model and expectation maximization, Clustering K-Means, Kernel Methods, Dual representation, Radial Basis functions network (RBFN), Constructing Kernels, Reinforcement Learning, Q-Learning, Cognitive Computing, Causality.

Convex Optimizations, Lagrangian Multiplier, Duality, Neural Networks, Backpropagation, RNN, Training and Hyper parameter tuning, SOM.

Deep Learning, Autoencoder, CNN, GAN, Dropout, LSTM, Familiarity with existing deep networks. Future perspective in Machine Learning.

### Registration Fee:

Only limited seats are available. Registration fee is as below.

Category	Without Accommodation	With Accommodation
Industry Participants	Rs. 14,000	Rs. 20,000
Faculty Member	Rs. 10,000	Rs. 15,000
Regular Students	Rs. 8,000	Rs. 12,000
International Participants	USD 250	USD 300

Early registration would fetch a discount of Rs. 2000. Accommodation would be on shared basis. Registration link is available on workshop website [www.nitttrkol.ac.in/iwaml2019](http://www.nitttrkol.ac.in/iwaml2019)

### Important Dates and Deadlines:

Registration Starts	15 Dec 2018
Early Registration	25 Jan 2019
Late Registration	30 Jan 2019
Shortlist of Participants	31 Jan 2019
Workshop Dates	04-08 Feb 2019

### CONTACT:

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### Call for Participation

NITTR Kolkata in association with BITS, Pilani, Pilani Campus invites participants to join IWAML2019 from February 4-8, 2019 at NITTR Kolkata.

### Call for Proposal

IWAML call proposals from distinguished researchers to deliver a lecture on emerging AI/ML topics. Proposals could be sent through mail to the convener.

### SPEAKERS:

**Dr. Phalguni Gupta,**  
NITTR Kolkata

**Dr. Surya Prakash**  
IIT Indore

**Dr. Aditya Nigam**  
IIT Mandi

**Dr. Mitesh Khapra**  
IIT Madras

**Dr. Badrinath GS**  
Amazon, Hyderabad

**Dr. Filippo Geraci**  
IIT CNR Pisa (Italy)

**Dr. Indrajit Saha**  
NITTR Kolkata

**Dr. Arun Chauhan**  
IIT Dharwad

**Mr. Suresh K Choudhary**  
Sr. Data Scientist NDS

**Dr. Kamlesh Tiwari**  
BITS Pilani

Some more experts, from other premier institutions may also join.

