

## Course Content

- Introduction to Artificial Intelligence
- Supervised, and Unsupervised Learning
- Statistical Pattern Recognition. Bayes Decision Theory.
- Classification and Regression
- K-means Clustering
- Introduction to Neural Network
- Feed Forward Neural Networks,
- Multilayer Perceptron and Back-propagation
- Introduction to Deep Learning
- Applications in Medical Image Processing, Biometrics and NLP

Practice sessions will be conducted to apply the above techniques in Python in an interactive format. All the coding will be performed on Google Colaboratory(Colab).



### Target Audience:

The course is suitable for CBSE School Teachers

### Mode of FDP:

It is purely an online workshop

## About the FDP (AIA20)

The broad objective of this faculty development program is to introduce Artificial Intelligence(AI) for CBSE teachers. AI techniques are widely used for many applications such as Biometrics, Medical Imaging Processing, Natural Language Processing, and so on. This course will give the basics of AI concepts with applications to computer vision. It will help to upgrade the expertise and capabilities of the faculty members of various engineering institutions in India and will generate a climate for research and enthusiasm for academic excellence. The objective of the course work is also to provide the theoretical fundamentals coupled with practical knowledge of artificial intelligence.

**Note - The entire workshop is planned for online mode, given the prevailing scenario in the country.**

### Patron

**Prof Banshidhar Majhi,  
Director IIITDM**

### Coordinators

**Dr J Umarani - Assistant Professor,**

### Co-Coordinator

**Dr B Sivaselvan, Associate Professor,  
Dr V Masillamani, Associate Professor,  
Department of CSE  
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**IIITDM  
KANCHEEPURAM**

## Organizes a 5-day FDP on Artificial Intelligence and Its Applications – (AIA20)

**December 1 to 5, 2020**

IIITDM Kancheepuram, a centrally funded institute offers UG and PG programs in Computer, Electronics and Mechanical engineering with the mandate of excelling in IT and IT-enabled Design & Manufacturing pedagogy and research. B.Tech, M.Tech, Dual Degree courses specializing in VLSI, Systems Design, etc. and PhD programmes in core areas of engineering are offered by us. These programmes augment engineering domain with relevant Design & Manufacturing skills. More details at [www.iiitdm.ac.in](http://www.iiitdm.ac.in).

No Registration fee will be charged from the participants

### Registration

<https://atalacademy.aicte-india.org/login>

**Registration step is given below**

<https://atalacademy.aicte-india.org/assets/data/portalFlowParticipant.pdf>

## FDP on Artificial Intelligence and Its Applications (AIA 2020), December - 2020 Venue: TBA

(\* topics are only indicative and not exhaustive)

Date	Session 1(10 AM-11.30 AM)		Session 2(11.45AM- 1.15PM)		Session 3 (2.30 PM to 4.30) With a break
1/12/20	Introduction to Artificial Intelligence Dr J Umarani, IIITDM Kancheepuram	T E A B R E A K	<b>Supervised learning:-</b> Classification: Bayes Decision Theory Dr J Umarani, IIITDM Kancheepuram	L U N C H  B R E A K	Python Basics I Practice Session on Bayes Classifier  Mr Subin Sahayam, Mrs Nilu R. Salim, Research Scholars, IIITDM Kancheepuram
2/12/20	<b>Supervised learning:-</b> Classification  Dr. Deepak Ranjan Nayak, MNIT Jaipur		<b>Supervised learning:-</b> Regression  Dr. Deepak Ranjan Nayak, MNIT Jaipur		Python Basics II Practice Session on Classification / Regression  Dr Deepak Ranjan Nayak, MNIT Jaipur Mr Subin Sahayam, Research Scholar, IIITDM Kancheepuram
3/12/20	<b>Unsupervised learning:-</b> Clustering: K-means Clustering Dr Suba Laitha C.N SRM Institute of Technology		<b>AI application:-</b> Natural Language Processing Dr Suba Laitha C.N SRM Institute of Technology		Practice Session on Clustering and NLP Dr Suba Laitha C.N, SRM Institute of Technology Mrs Nilu R. Salim, Research Scholar, IIITDM Kancheepuram
4/12/20	<b>Introduction to Neural Network:-</b> Perceptron  Dr Kamlesh Tiwari, BITS-Pilani		Feed Forward Neural Network (Multilayer Perceptron)  Dr Kamlesh Tiwari, BITS-Pilani		<b>Biometrics and Template Security</b> Dr. Surya Praksh, IIT Indore  Practice Session on Neural Network Mr Subin Sahayam, Research Scholar, IIITDM Kancheepuram
5/12/20	<b>Introduction to Deep Learning</b>  Dr. Aditya Nigam, IIT Mandi		<b>Deep Learning Architecture</b>  Dr. Aditya Nigam, IIT Mandi		Practice Session on Deep Learning  Mr Subin Sahayam, Research Scholar, IIITDM Kancheepuram