Course Content

- Introduction to Artificial Intelligence
- Supervised, and Unsupervised Learning
- 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).

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, Coordinators

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

umarani@iiitdm.ac.in- 99940 67092
sivaselvanb@iiitdm.ac.in- 98947 38112
masila@iiitdm.ac.in- 98402 60783
*coe18d001@iiitdm.ac.in-94875 26315
*Primary Contact

Target Audience:
The course is suitable for CBSE School Teachers

Mode of FDP:
It is purely an online workshop

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.

No Registration fee will be charged form 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 indicatory and not exhaustive)

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