



AI Workshop Course Content

Techfest is the annual science and technology festival of IIT Bombay. Following is the basic outline of the **in-person** workshop that would be happening at **Techfest in IIT Bombay**

Artificial Intelligence is the subfield of computer science that, according to Arthur Samuel, gives "computers the ability to learn without being explicitly programmed." Samuel, an American pioneer in the field of computer gaming and artificial intelligence, coined the term "machine learning" in 1959 while at IBM.

Topics to be covered in the workshop are as follows:

- Introduction to Artificial Intelligence
- Applications of Artificial Intelligence
- Artificial Intelligence & Machine Learning
- Database Mining & Machine Learning
- Supervised Learning Introduction & Examples
- Unsupervised Learning Introduction & Examples
- Linear Regression & implementation
- Introduction to Gradient Descent Algorithm
- Linear Algebra review
- Introduction to Python and Associated Libraries
- Introduction to Deep Learning & Neural Networks
- Introduction to ANN & CNN
- Single Layer Neural Network
- Multilayer Neural Network Architecture
- Training the Network
- Using the Network
- Importing & Exporting Network
- Importing & Exporting Training Data

Examples and applications

- Case Study: Character Recognition
- Case Study: Iris Clustering
- Case Study: Intelligent Washing Machine Design