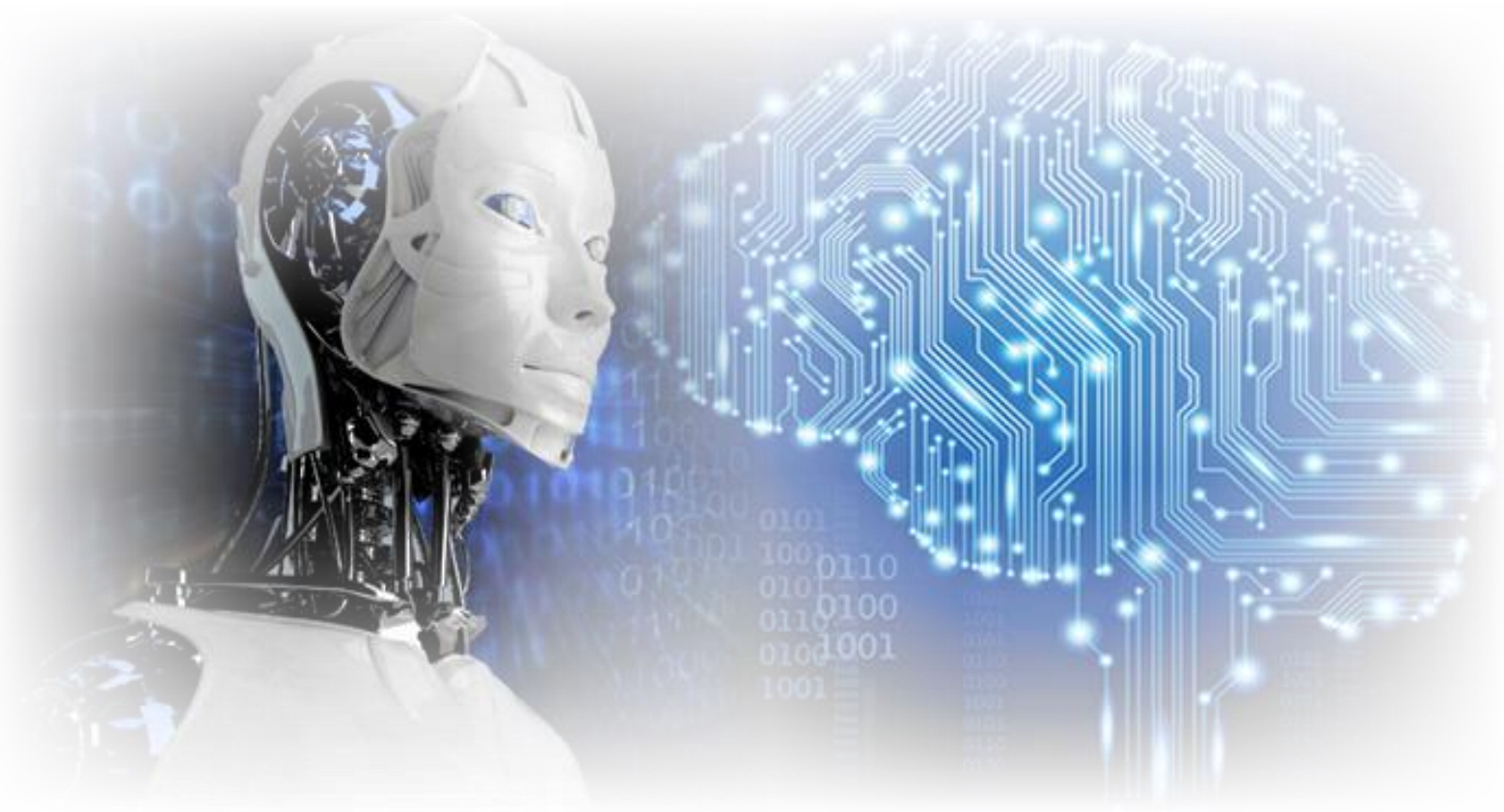


Artificial Intelligence & Machine Learning



Curriculum

The Program: Artificial Intelligence

Artificial Intelligence is one the very crucial branch of computer Science which aims at the generation of intelligence among the electronic machines. So it can be inferred in the simple way as a way of making a computer controlled-robot, or a software which will be having the ability of thinking intelligently exactly in the similar way as human does. AI is a way of making a computer, a computer-controlled robot, or a software thinks intelligently, in the similar manner the intelligent humans think. Initially, the thorough study of the human brain is done that how it thinks, decides, learn new things and acts upon the various different stimuli and then the outcomes are used as a basis of developing intelligence like human in the machines. Implementation of Human Intelligence in Machines – Creating systems that understand, think, learn, and behave like humans.

In this workshop, each session will be held tentatively of three to four hours. The very details of the sessions are given below:

The Curriculum: Artificial Intelligence

SESSION 1

Introduction of Artificial Intelligence

- Introduction of Artificial Intelligence and Machine Learning
- Brief introduction to Machine Learning for AI
- Classification of Machine Learning and Deep Learning
- Difference between Machine Learning and Artificial Intelligence
- Machine Learning Techniques
- Types of Learning
- Machine Learning System Design
- Supervised Learning- Regression Classification
- Future scope, Machine Learning And Artificial Intelligence

CURRICULUM STRUCTURE

SESSION 2

Python

- Introduction to python
- Conditional Statements
- Looping, ControlStatements
- Lists, Tuple, Dictionaries
- Functions
- Installing Packages
- Jupyter notebook

SESSION 3

Working on Various Python Library

- Installing library and packages for machine learning and data science
- Matplotlib
- Scipy and Numpy
- Pandas
- IPython toolkit
- Scikit-learn

SESSION 4

Machine Learning

- Logistic Regression
- Linear Regression
- K-Means Clustering
- Support Vector Machines (SVM)
- k-Nearest Neighbors (KNN) algorithm for classification

CURRICULUM STRUCTURE

SESSION 5

Deep Learning

- What is Deep Learning
- Why Deep Learning
- Neural Networks
- Types of Deep Learning
- Artificial Neural Network

SESSION 6

Introduction to Neural Network

- BASIC introduction Neuron
- The Neuron Diagram
- Neuron Models
- Activation function
- Binary Step Function Linear Function Sigmoid
- Tanh
- RELU
- Leaky ReLU
- single-layer feed-forward
- multi-layer feed-forward
- Feedforward Neural Networks

SESSION 5

Projects

- Classifying MNIST digits using Random Forest
- Customer churn prediction using ANN
- Image Segmentation using openCv
- Face Detection using Haar Cascades
- Making snapchat Filters

