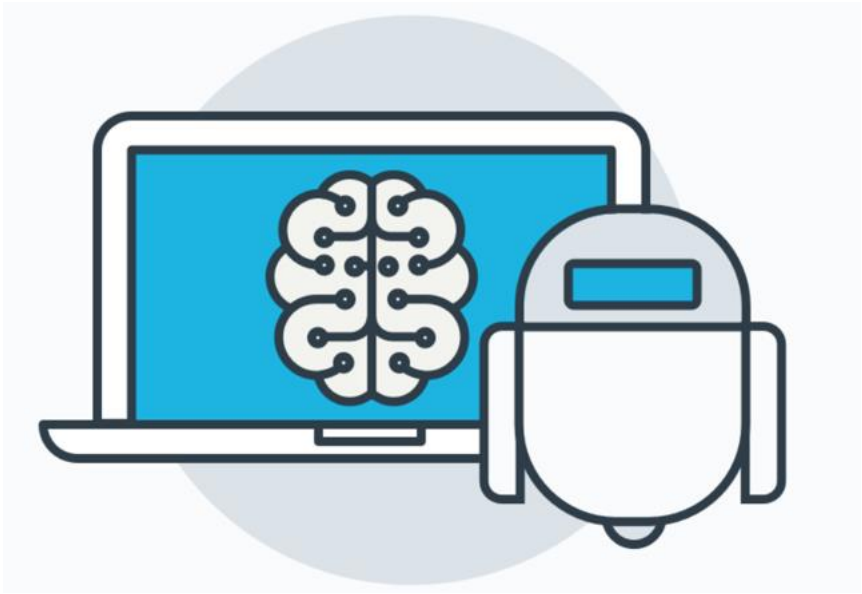

Machine Learning -Deep Learning

S.No	Topic	Sub Topic
1.	**Introduction of Machine Learning and Artificial Intelligent**	Introduction of Artificial Intelligence and Machine Learning
		Brief introduction to Machine Learning for AI
		Classification of Machine 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

		Array , Metrix, Metrix operation
2.	**Linear Algebra, Statistics**	Eigen Value, Eigen Vector, orthogonality
		Mean, Median, Mode Variance and Standard Deviation Probability Random Variables
		Probability Density Functions
		Normal Distribution Gaussian Distribution
		Conditional Probability Bayes' Theorem
		Bernoulli Distribution Binomial distribution
		Vector, Dotproduct
		Co-variance

		Unstructured vs. Structured data Qualitative and Quantitative data Discrete data and Continuous data
3.	**Data and Data Processing**	Data and Information Nominal and Ordinal Data
		Data Preprocessing Data Cleaning Data Integration Data Transformation Data Reduction
		Normalization Standardization
		Handling Missing Data

		Regression
4.	**Algorithms**	Naive Bayes Classification
		Backpropagation
		Logistic Regression
		Support Vector Machines (SVM)
		Apriori Algorithm Random Forests self-organizing maps
		Decision Tree
		k-Nearest Neighbors (KNN) K-Means Clustering Principal Component Analysis Linear Discriminant Analysis Learning Vector Quantization Boosting and AdaBoost

5.	**Python/Anaconda**	Introduction to python and anaconda
		Conditional Statements
		Looping, Control Statements
		Lists, Tuple ,Dictionaries
		String Manipulation
		Functions
		Installing Packages
		Introduction of Various Tool
		Introduction of Anaconda
		Working on spyder ,Jupyter notebook

6.	**Working on Various Python Library**	Installing library and packages for machine learning and data science
		Matplotlib,Seaborn
		Scipy and Numpy
		Pandas
		IPython toolkit
		scikit-learn,

S.No	Topic	Sub Topic
7.	**Data Analysis Using Pandas**	Introduction to Pandas
		Data Type of Pandas
		Creating DataFrame using Pandas

		Importing and Exporting Database
		Working with Complex Data
		Data Mining using Pandas .

8	**Introduction Neural Network**	BASIC introduction Neuron
		The Neuron Diagram
		Neuron Models
		Activation function
		Binary Step Function Linear Function Sigmoid Tanh RELU Leaky ReLU Softmax
		single-layer feed-forward
		multi-layer feed-forward Recurrent Neural Network
		Feedforward Neural Networks, Convolutional Neural Networks

9	**Introduction of OpenCv And Image Processing**	Installing Opencv library
		Introduction of Opencv and its function Basic Concept of Image Processing Image Editing Image Restoration Independent Component Analysis Linear Filtering
		Reading and Writing Image and Video
		Creating Different Shape
		Introduction of Haar-Casecade Classifier
		Working with images and videos

	Introduction of Tensorflow
TensorFlow	Basics of TensorFlow
	Graph in TensorFlow
	TensorFlow Session
	Placeholders,Constants,Variables
	Common Data Stored in Tensors
	Linear and Logistic Regression in TensorFlow
	image classifier using convolutional neural network