

## NEURAL NETWORKING

### Day 1 Session 1

- \* Introduction to Python
- \* Mutability
- \* Variables, Scope
- \* Single Types
- \* Ints, Floats, Rounding, Casting, Coercion, Booleans, Randoms & Printing
- \* Group Types
- \* List, Tuples, Dictionary
- \* Operators
- \* Conditional
- \* Recurrence
- \* Classes

### Day 1 Session 2

#### Neural network and deep learning Prerequisites

- \* Numpy
- \* Pandas
- \* Matplotlib
- \* Scipy

#### Introduction to Tensorflow and Machine Learning

- \* Representation Learning
- \* Neural Networks Introduced
- \* Introducing TensorFlow
- \* Tensors

### Day 2 Session 1

#### Linear Regression with Single Neuron

- \* Learning Algorithm
- \* Individual Neuron
- \* Linear Regression
- \* Learning XOR
- \* XOR Trained
- \* Neural Networks and Deep Learning

## Operation of a Single Neuron

- \* The Activation Function
- \* Training a Neural Network: Back Propagation
- \* Automobile Price Prediction - Exploring the Dataset
- \* Automobile Price Prediction - Using TensorFlow for Prediction
- \* Hyperparameters
- \* Preventing Overfitting

## Day 2 Session 2

### RNN

- \* Review and Sentiment Analysis using RNN
- \* Introduction to RNN
- \* RNN cell
- \* RNN for Image Classification
- \* Long/Short Term Memory cell
- \* Text in numeric form
- \* Sentiment Analysis
- \* Introduction to CNN

### Projects:

Data prediction model  
Data analytics Model  
Automobile price prediction model  
Image Classification Model  
Sentiment analysis model