Theory of Neural Network

- History and Intuition of Neural Network
- Perceptron Algorithm
- Gradient Descent
  More on GD:
  - Types of GD(Batch, Stochastic, Mini batch)
  - Vanishing GD Problem and solution

- Multi-layer perceptron (AKA Neural Network)
- Backpropagation for linear Regression + classification
- Activation functions(step, sigmoid, tanh, Relu)
- Over fitting in Neural Networks
  - Dropout layer
  - Regularization

- Convolutional Neural Network(Basics up to limit)

LAB Code implementations

- Basic Python and DL related libraries
  - Numpy
  - pandas
  - Matplotlib/Seaborn
  - Scikit Learn
  - Tensorflow/Keras
- Perceptron (with different loss and activation)
  Gradient descent with loss function
- Backpropagation Algorithm with simple dataset
- Basic ANN with real life dataset
- Convolution Neural Nets Basics up to limit