

1.1 Part - 1: ANN

25 September 2025 06:50 PM

@ Avinash Yadav

Artificial Neural Networks (ANN)

A. BASICS

- What is Deep Learning
- Deep Learning Vs Machine Learning
- Why deep learning is getting famous now?
- Deep Learning Application
- Deep Learning Types
- History of Deep Learning

B. PERCEPTRON

- What is a Perceptron
- Perceptron Vs Neuron
- Prediction in a Perceptron
- Training in a Perceptron
- Problem with the Perceptron

C. MLP

- Intuition of MLP
- MLP Notation
- Prediction in MLP

D. TRAINING AN MLP

- Gradient Descent
- Backpropagation

E. PRACTICAL WITH KERAS

- CPU Vs GPU
- Installation
- Regression using Keras
- Classification using Keras

F. HOW TO IMPROVE AN ANN

- Vanishing Gradients
- Exploding Gradients
- Dropouts
- Regularization
- Weight Initialization
- Optimizers
- Gradient Checking and Clipping
- Batch Normalization
- Hyperparameter Tuning

G. ADVANCED TOPICS

- Callbacks
- TensorBoard
- Pretrained Models
- Kera Functional API
- Saving and Loading a Keras model
- Building a Streamlit Application

H. PROJECT

- End to End Project
- AWS deployment