Recap

Basics of Neural Network

- Basics of Neural Network

- Understand the working mathematically

- Activation functions, optimizers, loss functions

- Implementation from scratch using numpy

Basics of Neural Network

Project - Loan Prediction

Assignment - Big Mart Sales Prediction

Handling Image Data

- How are images stored?

- Various image formats

- Reading images and image data manipulation

- Overview of Deep Learning frameworks

Handling Image Data

Project - Emergency Classification problem

Assignment - Gender Classification

Improving Model Performance

- Hyperparameter tuning

- Early stopping

- Dropout

- Handling problems like vanishing and exploding gradients

- BatchNorm

- Image Augmentation

Convolutional Neural Network

- Basics of CNN

- How filters work in CNN

- Pooling

- Forward and Backward Prop

- Hyperparameter tuning

- Advanced techniques like transfer learning and fine tuning

- Neural Network Visualization (to check if the model is performing correctly)