DEEP LEARNING LAB SYLLABUS

Demonstration and Implementation of Shallow Architecture

- Python, TensorFlow, and Keras
- Google Colaboratory: Cloning GitHub repository, Uploading Data
- Importing Kaggle's dataset
- Basic File Operations
- Implementing Perceptron
- Digit Classification: Neural network to classify MNIST dataset

Hyperparameter Tuning and Regularization Practice

- Multilayer Perceptron (BPN)
- Mini-batch Gradient Descent

Convolutional Neural Network Application Using TensorFlow and Keras

- Classification of MNIST Dataset using CNN
- Face Recognition using CNN

Object Detection Using Transfer Learning of CNN Architectures

Image Denoising Using Autoencoders

- Handling Color Image in Neural Networks (Stacked Autoencoders for Denoising)

Text Processing and Language Modeling Using RNN

Transfer Learning Models for Classification Problems

Sentiment Analysis Using LSTM

Image Generation Using GAN