Project Write Up

Step1: Importing necessary libraries

Step2: Load data from npz file.

1. Reading data from file
2. Storing train and test data values in variables
3. Reshaping trainX and testX values

Step3: Data exploration

1. Checking unique classes from train set.
2. Display first images from train and test set.

Step4: Reshaping train and test set and scaling the pixel values to feed into the model

Step5: Change the labels from categorical to one hot encoding

Step6: Splitting train data into training and validation set

1. Taking 3 random image data from each class in train set for validation

Step7: Build Model

1. Two Convolution and pooling layer
2. Fully connected layer with 1 hidden layer
3. Using Dropout of 40% to introduce regularization to avoid overfitting.
4. Compiling model using loss = ‘categorical\_crossentropy’, optimizer=’adam’
5. Fitting the model

Step8: Summarize history of accuracy and loss

Step9: Prediction on test data set and checking accuracy and loss.