ARCHITECTURE OF HANDWRITTEN DIGIT RECOGINITION SYSTEM

PRO-PROCESSING MODULE

Convert to gray scale image

De-noise the image make enhancement

Convert to binary image

Online feature

4 → 4

7 → 7

5 → 5

INPUT IMAGE

PREPROCESSING

FEATURE EXTRACTION

offline feature

RECOGNITION MODULE

IMAGE NORMALIZATION CHANGING PIXEL INTENSTY

Min/max scale(fitting of data)

CONVOLUTIONAL NEURAL NETWORKS CLASSIFIER

MNIST DATASETS CREATED DATASETS

CLASSIFICATION OF DATA

RECOGNIZE CHARACTERS

OUTPUT CHARACTER