

README

Neural Network Training.py

The purpose of the program is to train a neural network model to recognize handwritten digits. It is trained on a dataset of hand-drawn numbers, *MNIST*, and uses a neural network architecture called *TinyVGG*.

Simply run the program to create, train, and then save 'digit-recognizer.h5' model compatible with *TensorFlow*.

ImageLoaderClass.py

The purpose of this program is to recognize handwritten digits between zero and nine. The program will process the image to make it binary and of the dimensions 28x28, as the model was trained on a large dataset of 28x28 grayscale images. The program mainly only works on images without a lot of noise.

To run the image loading program type python ImageLoaderClass.py. When the program begins you will be prompted to enter a filename. Enter the filename and it will process the image then make a prediction.

NOTE: In order to run the Image Loader Class you will need two files: ImageLoaderClass.py and digit-recognizer.h5. Some image examples will also be included under a folder named digit examples for you to run the program on. Images 0-9 are drawn on a clean chalkboard and images d0-d9 are drawn on a dirty chalkboard to show areas where the processing tends to fail