

A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITION SYSTEM

MODEL BUILDING -TESTING THE MODEL

```
prediction = model.predict(x_test[:6])
```

```
prediction
```

```
print(np.argmax(prediction,axis=1))
```

```
print(y_test[:6])
```

Test the model

```
[ ] prediction = model.predict(x_test[:6])
prediction
```

```
1/1 [=====] - 0s 491ms/step
array([[4.64157530e-08, 2.74305307e-07, 5.02676594e-05, 5.77586798e-06,
        1.01024733e-12, 6.81012061e-12, 8.44828408e-19, 9.99943614e-01,
        1.11992560e-09, 9.23913674e-08],
       [4.57668264e-10, 8.62501071e-10, 9.99989152e-01, 5.93742880e-06,
        6.32351299e-19, 5.68560476e-17, 9.80641078e-14, 3.85840515e-09,
        4.92174286e-06, 1.95970237e-12],
       [6.30089635e-05, 9.99932289e-01, 1.96934451e-08, 4.40868064e-10,
        1.5126335e-08, 2.69947673e-08, 5.83886333e-07, 3.92503489e-06,
        8.36069560e-08, 3.56900287e-08],
       [1.00000000e+00, 7.11290888e-18, 1.13196421e-12, 3.32598015e-20,
        3.15676041e-10, 6.57500313e-13, 5.24415089e-09, 1.27163506e-14,
        3.08010995e-12, 6.05603631e-12],
       [2.08993843e-14, 8.42980725e-08, 2.44364316e-13, 3.36941088e-19,
        9.99991536e-01, 1.57114724e-19, 1.20863944e-13, 1.99323793e-13,
        5.87849864e-13, 8.38142932e-06],
       [1.11765305e-10, 9.99999523e-01, 1.13755858e-12, 3.65731994e-13,
        1.08976169e-13, 2.48005772e-13, 4.17519269e-15, 5.14546002e-07,
        1.26098134e-13, 1.86506591e-11]], dtype=float32)
```

```
[ ] print(np.argmax(prediction,axis=1))
print(y_test[:6])
```

```
[7 2 1 0 4 1]
[[0. 0. 0. 0. 0. 0. 0. 1. 0. 0.]
 [0. 0. 1. 0. 0. 0. 0. 0. 0. 0.]
 [0. 1. 0. 0. 0. 0. 0. 0. 0. 0.]
 [1. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 1. 0. 0. 0. 0. 0.]
 [0. 1. 0. 0. 0. 0. 0. 0. 0. 0.]]
```