A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITION SYSTEM

TEST THE MODEL

```
[26] prediction = model.predict(X_test[1:5])
     print(prediction)

1/1 [==============================] - 0s 16ms/step
[[9.60892374e-36 0.00000000e+00 1.00000000e+00 0.00000000e+00
  0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00
  0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00
  0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00
  0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00]
 [4.36628698e-34 1.00000000e+00 2.92485311e-26 4.66219649e-36
  6.77198292e-19 1.31352406e-28 2.97168407e-33 1.36185925e-27
  5.97913030e-18 7.75563489e-38 3.98260082e-30 1.68823163e-30
  5.87881201e-30 4.68816217e-29 7.22056354e-29 1.02700769e-30
  6.88386090e-31 3.00506821e-29 1.12997635e-29 1.12495656e-30]
 [1.00000000e+00 0.00000000e+00 4.01326360e-26 9.66789863e-36
  2.27979377e-38 1.84284963e-37 1.72507896e-30 0.00000000e+00
  1.63636720e-35 2.24349012e-23 3.57901997e-38 0.00000000e+00
  2.68539289e-38 2.10626396e-36 0.00000000e+00 0.00000000e+00
  2.68337692e-37 3.59252255e-37 6.51109856e-38 5.51147950e-37]
 [0.00000000e+00 0.00000000e+00 0.00000000e+00 0.00000000e+00
  1.00000000e+00 0.00000000e+00 1.63143243e-33 0.00000000e+00
  5.16068193e-35 4.92607453e-32 1.52468017e-35 0.00000000e+00
  2.78788733e-37 1.49848258e-38 0.00000000e+00 1.32017842e-38
  5.08623082e-38 0.00000000e+00 0.00000000e+00 0.00000000e+00]]
```

```
[27] print(np.argmax(prediction,axis = 1))
     print(y_test[1:5])

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