

A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITION SYSTEM

APPLY ONE HOT ENCODING

```
[13] number_of_classes = 20
```

```
[14] y_train = np_utils.to_categorical(y_train,number_of_classes)
      y_test = np_utils.to_categorical(y_test,number_of_classes)
```

```
[15] y_train[0]

array([0., 0., 0., 0., 0., 1., 0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
       0., 0., 0.], dtype=float32)
```

```
[16] y_test

array([[0., 0., 0., ..., 0., 0., 0.],
       [0., 0., 1., ..., 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.]], dtype=float32)
```