

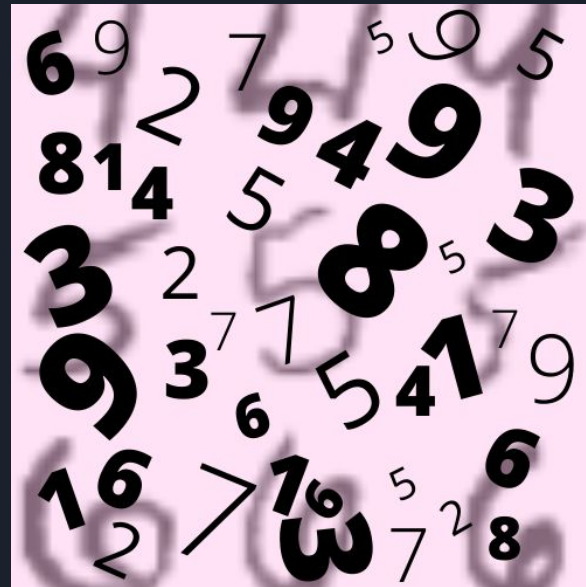


Handwritten Digit Recognition

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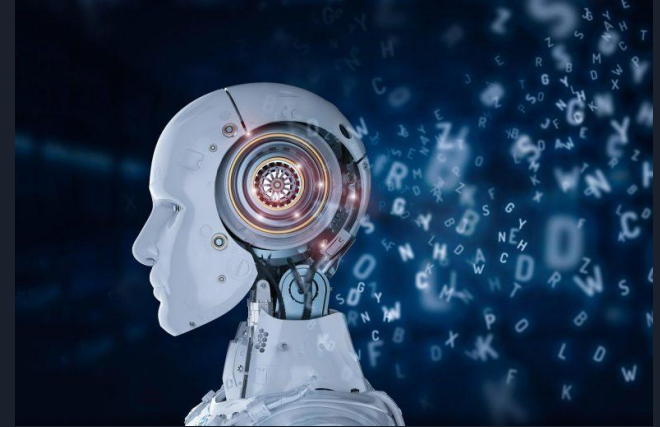
Introduction

- Human handwritten digit to computer recognize digit.
- Where can we use this type of system?
 - Captcha Recognition
 - Digital documents(auto generated written pdfs)
 - Bank Check Processing
 - Number Plate Recognition



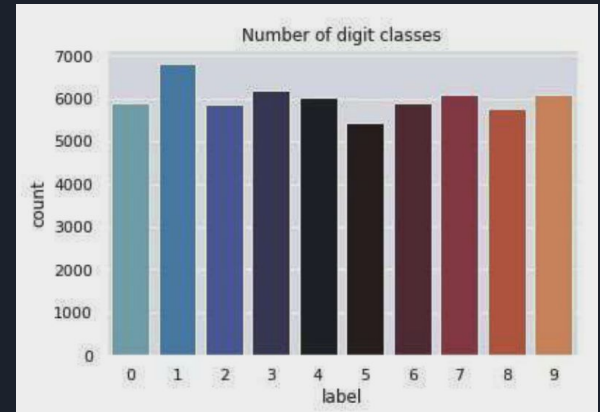
Introduction

- How to generate this system.
 - Inputs format images, papers, touchpad, videos,sensors etc.
 - Machine learning models
 - SVM
 - KNN
 - Feature extraction
 - CNN



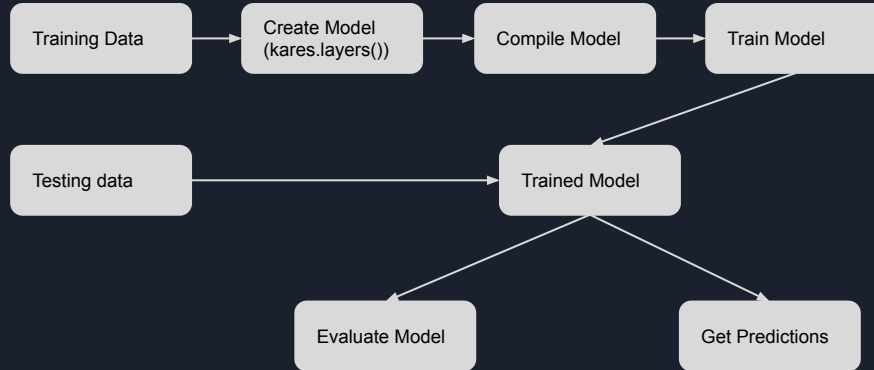
Methodology

- DataSet >> MNIST(Modified National Institute of Standards and Technology database)
 - Combination of Two NIST'S database
 - Containing 70,000 images
 - 60,000 - training set and 10,000 - test set
 - 28x28 pixel boundaries

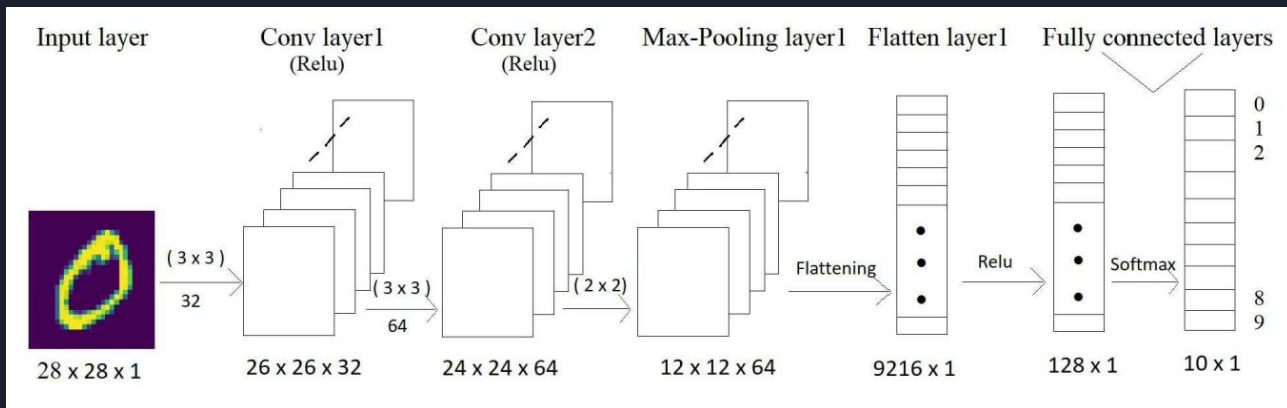


Methodology continue...

- Convolutional Neural Network(CNN)
- Multilayered Perceptron
 - Keras Module

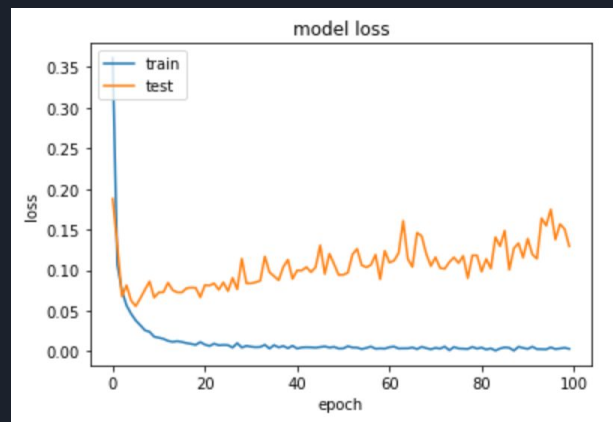
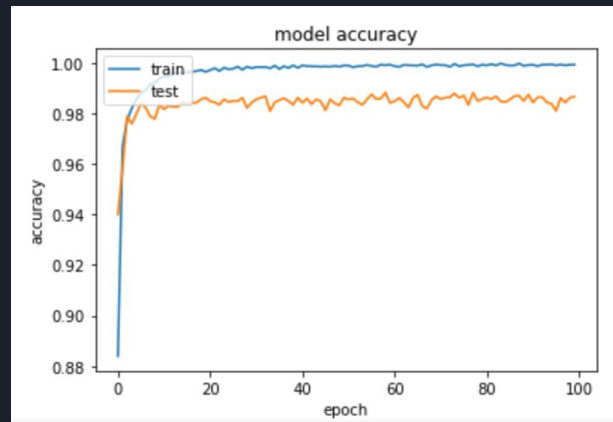


Methodology continue...



Result

- Total epochs=100
- Validation accuracy on 60,000 train samples 0.9956666827201843
- Validation accuracy on 10,000 test samples 0.9865999817848206
- Execution Time= 43 min





Demo continue...