Handwritten Character Image Recognition

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- With the world adapting to the online version of documents and moving to edge cutting tech its to important to have handwritten character recognition

- It important to read postal address, bank checks, forms and ancient archives in libraries to be available online.

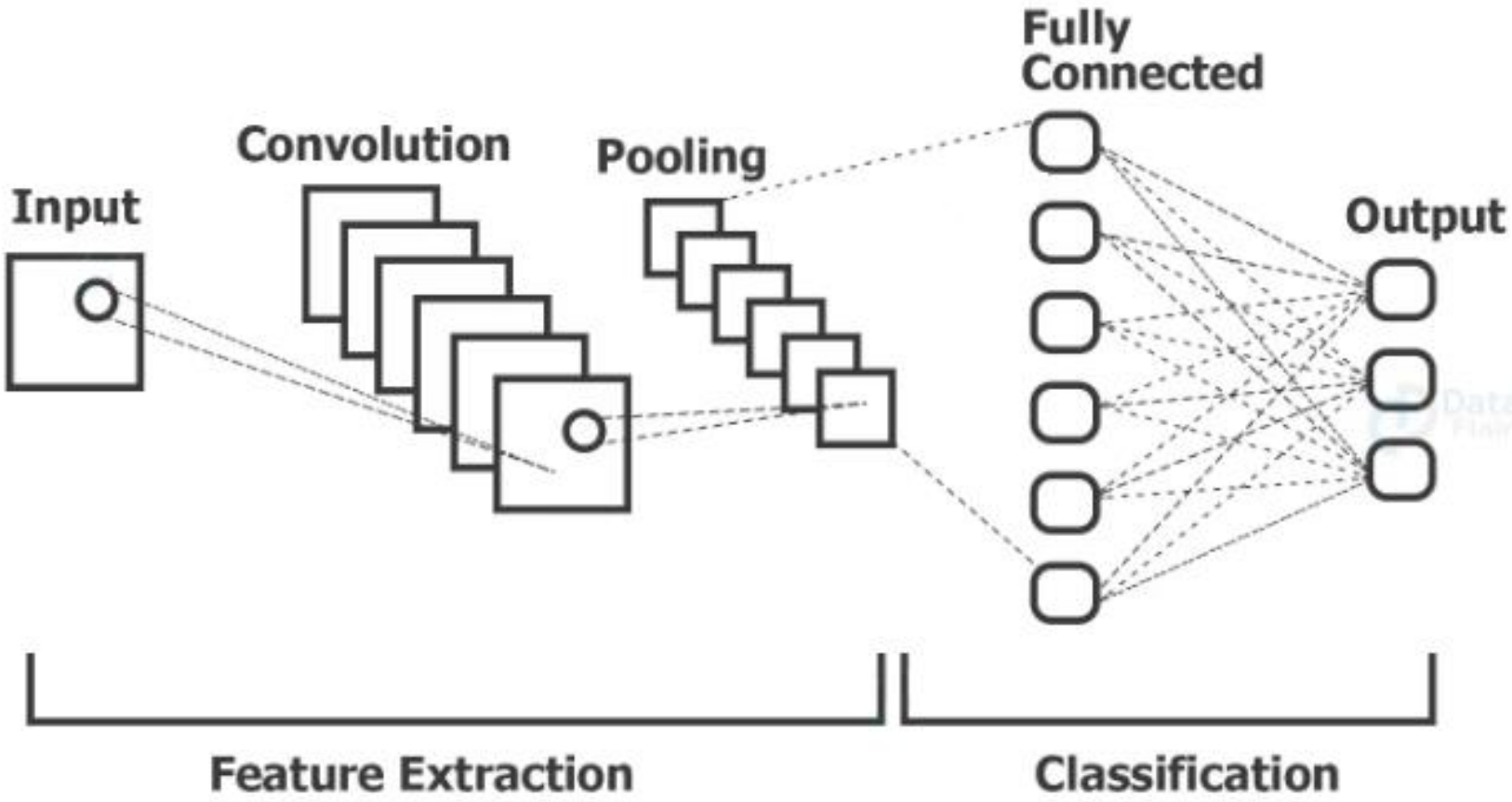
Handwritten Character Image Recognition

- My program is able to recognition A-Z characters
- Its implemented by modeling a neural network that is train over a dataset containing images of alphabets from A-Z
- Dataset from Kaggle in .cvs file, which was later convert to image. As it stored as grey level.
- Data set contains 372450 images of alphabets of 28×2
- I used Convolutional Neural Networks CNN algorithms

Convolutional Neural Networks CNN

- Convolutional Neural Networks that are used to extract the features of the images using several layers of filters.
- The convolution layers are generally followed by max pool layers that are used to reduce the number of features extracted and ultimately the output of the max pool and layers and convolution layers are flattened into a vector of single dimension and are given as an input to the Dense layer
- The dataset is very large so I have trained for only a single epoch, however, as required I can even train it for multiple epochs (which is recommended for character recognition for better accuracy).

CNN


Fully
Connected
Convolution
Pooling
Input
Output
Feature Extraction
Classification

References

- Patel, Sachin. “A-Z Handwritten Alphabets in .CSV Format.” *Kaggle*, 16 Feb. 2018, www.kaggle.com/datasets/sachinpatel21/az-handwritten-alphabets-in-csv-format/code.