Arabic Handwritten Characters Recognition

Problem Statement

Handwritten Arabic character recognition systems face several challenges, including the unlimited variation in human handwriting and large public databases. In this work, we model a deep learning architecture that can be effectively applied to recognizing Arabic handwritten characters.

Solution Statement

A Convolutional Neural Network (CNN) is a special type of feed-forward multilayer trained in supervised mode. The CNN trained and tested our database that contains 16800 of handwritten Arabic characters

Follow This Link to download dataset

Reflection

The process used for this project can be summarized using the following steps :

1. An initial problem and relevant, public dataset were found
2. The dataset was downloaded and preprocessing
3. The benchmark model was created for the model
4. The classifier was trained using the data (multiple time, until a good set of parameters were found)

contribution

We will use pre-traine model called Vgg16 which trained on large images data set reach to billions of images and took hundred of hours on powerful computational resources which will lead to get high accuracy in images classification process.

Then we will use that architect and customize it to meet our need in this problem

Future Work

The future work is to use the Neural Language Processing to use text instead of characters

It will be more useful to predict and understand text rather than characters such as:

- classifying the message is spam or not
- Analysis of the posts and comments to the people in social media and build a recommendation system according to this analysis

Thanks!

Any questions?

Team names

- Kareem EL-Gohary
- Abdelrahman Saied
- Ahmed Abdelnaser
- Ahmed Eid
- Mohamed EL-Raghy