**Handwritten Arabic Letter Recognition**

**Abstract**

Automatic handwriting recognition can be defined as the ability of a system to identify human handwritten input. The handwriting can be from many sources, such as paper documents or images. The goal of this project is to use primarily non-tabular data such as images. Also, the project uses data to build a neural network model that addresses a useful prediction.

**Design**

The project uses datato build a neural network model. The model was trained for 50 epochs. Also, the project uses Adam optimizer. The performance of the model was evaluated based on the accuracy and loss rate of test set.

**Data**

Hijja is a publicly available dataset of Arabic handwritten alphabets. It consists of 29 characters which are 28 Arabic letters in addition to “Hamza”.

**Algorithms**

Accuracy: 0.88

Test Accuracy: 87.95

Test Loss: 0.75

**Tools**

Acquisition tools

Skater library

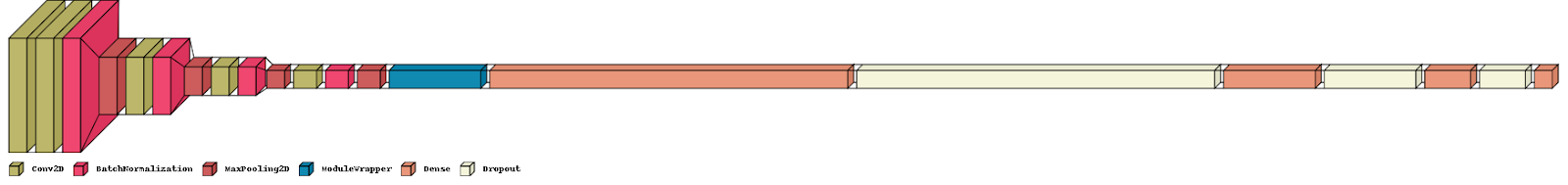
Numpy and Pandas

Scikit-learn

Matplotlib and Seaborn

**Communication**

*CNN model*



Chart

Description automatically generated with medium confidence

Chart, histogram

Description automatically generated