LITERATURE SURVEY

1. Handwritten digit recognition algorithm based on DBN and improved KNN algorithm(2022) - Wenshun Sheng,Liujing Xu,Yepeng Gao,Yunhua Wang et al.,

With multiple applications but little theoretical research, the DBN algorithm might be seen as a foundational algorithm for deep learning. Therefore, it makes a lot of sense to combine the DBN algorithm with the classic KNN approach in this paper's investigation of handwritten digit recognition.e. Its parameters can be changed to produce an accuracy of 98.49%. To get better results, more parameter tuning is still required, such as using more samples or other classifiers.

2. Unsupervised Similarity Based Convolutions for Handwritten Digit Classification(2022) - Tuğba Erkoç M, Taner Eskil et al.,

Convolutional Neural Networks (CNN) filters succeed if they are properly trained. CNN filters need to be carefully started, trained, and fine-tuned in order to get good classification results. We suggest an unsupervised approach that enables filter identification from a given dataset in a single epoch without requiring the convolutional layer's number of filters to be specified. By using a discovery technique to extract a number of features that accurately reflect the complexity of the input domain, our suggested method gradually builds the convolutional layers. The filters were found to represent patterns in the domain, hence no initialization technique or backpropagation training was needed to fine-tune them. On the MNIST dataset, our solution achieves 99.03% accuracy without the need of any data augmentation techniques.

3. Ensemble machine learning model for classification of handwritten digit recognition(2022) - Mariam Omar Alshrief; Wafa El-Tarhouni; Kenz Amhmed Bozed et al.,

One often utilized application of machine learning is the recognition of handwritten numerals. Zip code recognition in postal mail sorting, writer identity and verification, diacritical processing, and the recognition of handwritten digits on a bank check are just a few applications where it is used. In the context of classification tasks based on machine learning, each of the ten digits (0-9) is identified as a category. However, it can be challenging for someone to tell apart because everyone has a different handwriting style. Additionally, each learning algorithm may have its own set of advantages and disadvantages, indicating that it may be possible for one algorithm to learn some but not all of the unique characteristics of handwritten numbers. A method for classification that increases the efficiency of the process