| S.No | Author | Year of publication | Title | contents |
|------|--------|--------------------|-------|----------|
| 1. | Eva Tuba and Nebojsa Bacanin | 2015 | "An Algorithm for Handwritten Digit Recognition Using Projection Histograms and SVM Classifier", Institute Of Electrical and Electronics Engineers. | Classification is facilitated by carefully tuned 45 support vector machines (SVM) using One Against One strategy. The proposed model was tested on standard benchmark images from MNIST database and it achieved remarkable global accuracy of 99.05% |
| 2. | Ayush Purohit, Shardul Singh Chauhan | 2016 | A Literature Survey on Handwritten Character Recognition | The different techniques are applied to remove slope and slant from handwritten text and to normalize the size of text images with supervised learning methods. The key features of this recognition system were to develop a system having high accuracy in pre - processing and recognition, which are both based on ANN. In coming days, character recognition system might serve as a key factor to create a paperless environment by digitizing and processing existing paper documents. |
| 3. | Malothu nagu, N Vijay Shankar,k. Anna purna | 2011 | A novel method for Handwritten Digit Recognition with Neural Networks | An image, which contained 100 samples of each number, was trained and tested. The accuracy rate of recognizing the number was 99%. This accuracy rate is very high. From the |

| | | | | training and testing results, it was concluded that the system had more trouble identifying numeral ". This maybe caused by the fact that the digit is running together or maybe it is not fully connected. It will need to take a close look at the system and should look for improvements for the future. This part will also need more improvements. |
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| 4. | Savita Ahlawat , Amit Choudhary , Anand Nayyar , Saurabh Singh and Byungun Yoon | 2020 | Improved Handwritten Digit Recognition Using Convolutional Neural Networks (CNN) | The proposed work aims to investigate several design alternatives for CNN-based handwritten digit recognition, such as the number of layers, stride size, receptive field. In this case, we want to obtain equal accuracy by employing a pure CNN design without ensemble architecture, because ensemble structures increase computational overhead and testing complexity. As a result, a CNN design is developed in order to obtain higher accuracy than ensemble systems while reducing operational complexity and expenseWe conducted extensive trials and achieved 99.87% recognition accuracy for an MNIST dataset |
| 5. | G. Pirlo and D. Impedovo | 2018 | Fuzzy-Zoning-Based Classification For | The new class of membership functions, which are |

| | | | Handwritten Characters | called Fuzzy membership functions (fmfs), for zoning-based classification In this research, a real coded genetic algorithm is presented to find, in a single optimization procedure, the optimal FMF, together with the optimal zoning described by Voronoi tessellation. The experimental results, which are carried out in the field of handwritten digit and character recognition, indicate that optimal FMF performs better than other membership functions based on abstract level, ranked-level, and measurement level weighting models, which can be found in the literature. |
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