

Literature Survey

Team ID : PNT2022TMID40332

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1	Paper title	Handwritten digit recognition is a translational problem of human writings into machine editable text format. Author – Ganesh Khekare Year-2021.
	Problem definition	In this paper, Convolutional Neural Networks (CNN) is presented for handwritten digit recognition. Edges of the extracted graph were categorized into shape types and vertices were extracted from each of the edges and their layer wise evaluation using deep learning
	Methodology/ Algorithm	The algorithm uses training data for the forward and backward pass. Afterward we save the trained CNN and prepare for the testing phase.
	Advantages	Electronic storage is that this data only requires far less physical space than the storage of the physical copies.
	Disadvantages	That it is not done in real time as a person writes and therefore not appropriate for immediate text input.

2	Paper title	A human may not appreciate how difficult it is to solve handwriting. Author -B.Ali Alameer. Year – 2021.
	Problem definition	The challenge of visual pattern recognition is only apparent to develop a computer system to read handwriting. The artificial neural networks approach is considered as the best way to develop systems for recognizing handwriting.
	Methodology/ Algorithm	Neural network is a system inspired by human brain function, consists of neurons connected in parallel with the ability to learn. We use back propagation algorithm for computing derivatives
	Advantages	Handwriting allows for organized thoughts, authenticity, and even reading skills. it enhances both literacy and reading comprehension.
	Disadvantages	The issue is that there's a wide range of handwriting – good and bad. This makes it tricky for programmers to provide enough examples of how every character might look.

3	Paper title	Handwritten Digit Recognition using Machine Learning . Author – Nazmule Siddique Year – 2021.
	Problem definition	Handwritten character recognition is one of the practically important issues in pattern recognition applications.
	Methodology/ Algorithm	Several machines learning algorithm namely, Multilayer Perceptron, Support Vector Machine, Naïve Bayes, Bayes Net, Random Forest, J48 and Random Tree has been used for the recognition of digits using WEKA.
	Advantages	The applications of digit recognition includes in postal mail sorting, bank check processing, form data entry, etc
	Disadvantages	In SVM it's better to scale the data always; because it will extremely improve the results. Therefore be cautious with big dataset, as it may leads to the increase in the training time.

4	Paper title	A progressive learning approach for low resource handwritten text recognition. Author- Mohamed Ali Souibgui Year-2022
	Problem definition	Handwritten text recognition in low resource scenarios, such as manuscripts with rare alphabets, is a challenging problem. we propose a few-shot learning-based handwriting recognition approach that significantly reduces the human annotation process, by requiring only a few images of each alphabet symbols.
	Methodology/ Algorithm	Similarity matrix decoding. An Multidimensional Long ShortTerm Memory (MDLSTM)Approach was proposed.
	Advantages	The evaluation on different datasets shows that our model can lead to competitive results with a significant reduction in human effort
	Disadvantages	the clustering method turned is the segmentation of symbols, because is was often in- accurate, provoking transcription errors.