LITREATURE SURVEY

College Name   : K. RAMAKRISHNAN COLLEGE OF ENGINEERING

Department   : Computer Science and Engineering

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S.NO	TITLE	PROPOSED WORK	TOOLS USED/ALGORITHM	TECHNOLOGY	ADVANTAGES/ DISADVANTAGES
1.	A novel Method for Handwritten Digit Recognition Using Image Processing and Neural Networks.	Handwriting recognition is one of the compelling research works going on because every individual in this world has their own style of writing. MNIST data set is widely used for this recognition process and it has 70000 handwritten digits. We use Artificial neural networks to train these images and build a deep learning model.	• Random Forest, • Naive Bayes, • Support vector Machine, • Bayesian Network • Multilayer Perceptions	• Deep Learning, • Machine Learning • Artificial Neural Networks	The system not only produces a classification of the digit but also a rich description of the instantiation parameters which can yield information such as the writing style The generative models can perform recognition driven segmentation

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2.	A Novel method for hand written digit Recognition Using Deep Learning	The dataset consist of 60,000 training images and 10,000 test images . The artificial neural networks can all most mimic the human brain and are a key ingredient in image processing field. For example Convolution Neural networks with back propagation for image processing.	Machine Learning algorithms i.e. CNN using Tensorflow have been trained and tested on the same data to draw a comparison as to why we require deep Learning Using the Convolutional Neural Network with Keras.	Artificial Intelligence.	System analysis and design relates to shaping organizations, improving performance and achieving objectives for profitability and growth. The emphasis is on systems in action, the relationships among subsystems .

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3.	Cloud-based efficient scheme for handwritten digit recognition.	Handwritten character recognition has been acknowledged and achieved more prominent attention in pattern recognition research community due to enormous applications & vagueness in application methods.	CEDAR, MNIST, CENPARMI, OCR .	Artificial Intelligence	In artificial intelligence and computer vision, handwritten digit recognition based on cloud computing is a pivotal step. Machine learning and pattern classification societies use the question of HDR as a model to test the classification performance.

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4.	A Novel Approach to On-Line Handwriting Recognition Based on Bidirectional Long Short Term Memory Networks.	In this paper we introduce a new connectionist approach to on-line handwriting recognition and address in particular the problem of recognizing handwritten whiteboard notes.	Recurrent neural networks (RNNs) Connectionist Temporal Classification (CTC) Long Short-Term Memory (LSTM).	Artificial Intelligence	In this paper we described a novel approach for recognizing online handwritten text on a whiteboard, using a single recurrent neural network (RNN). The key innovation is a recently introduced RNN objective function.

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5.	Handwritten Digit Recognition Using Various Machine Learning Algorithms and Models.	In this paper we use various Machine Learning algorithms to enhance the productiveness of technique and reduce the complexity using various models. Machine Learning is an application previous technique.	Support vector Machine (SVM)Convolutional Neural Network (CNN).	Artificial Intelligence	According to survey we have founded that by using Convolutional neural network accuracy increase to the 99.89% accuracy most among all Similarly, Double Q learning algorithm also given high accuracy but in MATLAB dataset only. SVM also given accuracy of 99.36%.

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6.	A Novel Approach to Recognize the off-line Handwritten Numerals using MLP and SVM Classifiers.	This paper presents a new approach to offline handwritten numeral recognition. Recognition of handwritten numerals has been one of the most challenging task in pattern recognition. Recognition of handwritten numerals poses serious problems.	SVM MLP	Artificial Intelligence	Our dataset contains 1200 images of offline handwritten numerals. 1200 samples of offline handwritten numerals are contributed by each of the 24 writers of different educational profiles and each writer wrote five times numerals.

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7.	Comparison of learning algorithms for handwritten digit recognition.	Designing a practical recognition system for comparing shape recognition methods.	- Database - Different types of classifiers used - Radial basis function network, Large fully connected multi-layer neural network)	Machine Learning	Performance depends on many factors including high accuracy, low runtime and low memory requirements. Larger recognizers in turn require larger training sets.

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8.	Effective Handwritten Digit Recognition using deep convolution Neural Networks.	MNIST as a primary dataset consist of 70,000 handwritten rastro images from 250 different sources out of which 60,000 are used for training and rest used for training validation .MINST data represented in the IDX file format.	• SOM Clustering • Support Vector Machine	Deep Convolution, Neural networks Artificial Intelligence	By using the Deep convolution, it works on the patterns in low Dimension Space where Scaling is 2000 times lesser results with 99.25 % accuracy The proposed system was surprisingly higher when compared to many other approaches with 97% Accuracy.

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9.	Intelligent Handwritten Digit Recognition using Artificial Neural Network	The aim of this paper is to implement a Multilayer Perceptron (MLP) Neural Network to recognize and predict handwritten digits from 0 to 9. A dataset of 5000 samples were obtained from MNIST. The dataset was trained using gradient descent back-propagation algorithm and further tested using the feed-forward algorithm. The system performance is observed by varying the number of hidden units and the number of iterations. The performance was thereafter compared to obtain the network with the optimal parameters. The proposed system predicts the handwritten digits with an overall accuracy of 99.32%.	MLP MNIST	Artificial Intelligence	a Multilayer Perceptron (MLP) Neural Network was implemented to address the handwritten digit recognition problem. The proposed neural network was trained and tested on a dataset attained from MNIST. The system performance was observed by varying the number of hidden units.

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10.	Multi-Language Handwritten Digits Recognition based on Novel Structural Features	Automated handwritten script recognition is an important task for several applications. In this article, a multi-language handwritten numeral recognition system is proposed using novel structure.	MNISTN on dominated Sorting Harmony-Search Algorithm (NSHA)	Artificial Intelligence	In this paper a novel Local Feature Extraction method that is used to design a unified multilanguage handwritten numeral recognition system.

THANK YOU