Literature Survey

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S.No	TITLE	PROPOSED WORK	TOOLS USED/ ALGORITHM	TECHNOLOGY	ADVANTAGES/ DISADVANTAGES
1.	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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2.	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, we proposed a novel Local Feature Extraction method that is used to design a unified multi-language handwritten numeral recognition system.

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3.	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 recog-nizing on-line handwritten text on a whiteboard, using a single recurrent neural network (RNN). The key innova-tion is a recently introduced RNN objective function

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4.	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 neworks 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 Tensorflowhave 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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5.	A NOVEL METHOD FOR THE RECOGNITION OF ISOLATED HANDWRITTEN ARABIC CHARACTERS	There are many difficulties facing a handwritten Arabic recognition system such as unlimited variation in human handwriting, similarities of distinct character shapes, interconnections of neighbouring characters and their position in the word.	MNIST, CEDAR	Artificial Intelligence	This paper presents an approach for extracting features to achieve high recognition accuracy of handwritten Arabic characters. We tune the used parameters during the preprocessing phase including binarization.

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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 off-line 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.	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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8.	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.

THANK YOU