LITERATURE SURVEY

S.No	Author & Year	Title	Description	Development
1.	C-L. Liu & K. Marukawa (1988)	Normalization Ensemble for Handwritten Character Recognition	In this paper, to identify handwritten characters we have constructed a suitable neural network which is able to extract the characters one by one and able to map the target output for training purpose.	The proposed neural network based method gives approx 90% accuracy in results. The result of the proposed work which clearly shows the accuracy result of the algorithm.
2.	Vijayalaxmi R Rudraswamimath ,Bhavanishankar K. (2019)	Handwritten Digit Recognition Using CNN	The Handwritten Digit Recognition using Deep learning methods has been implemented. The most widely used Machine learning algorithms, KNN, SVM, RFC and CNN have been trained and tested on the same data in order acquire the comparison between the classifiers. Utilising these deep learning techniques, a high amount of accuracy can be obtained. Using Keras as backend and Tensorflow as the software, a CNN model is able to give accuracy of about 98.72%	In this experiment, CNN gives an accuracy of 98.72%, while KNN gives an accuracy of 96.67%, while RFC and SVM are not that outstanding.Compared to other research methods, this method focuses on which classifier works better by improving the accuracy of classification models by more than 99%
3.	Amanda Bischoff and Patrick S. P. Wang(1992)	Handwritten digit recognition using neural networks	There are deficient works accomplished on Arabic pattern digits because Arabic digits are more challenging than English patterns. Hence, the lacking research of using	In this work ,a new challenging digit Arabic dataset is collected from different study levels of schools. A large dataset is collected

			Arabic digits endeavours us to dig deeper by creating our challenge Arabic Handwritten Digits which consists of more than 45,000 samples	after paying vast effort for distributing and collecting digit forms over hundreds of primary, high, college students.
4.	Akanksha Gupta, Ravindra Pratap Narwaria, Madhav Singh, January 2021	Review on Deep Learning Handwritten Digit	In this digital world, everything including documents, notes is kept in digital form. The requirement of converting these digital documents into processed information is in demand. This process is called as Handwritten digit recognition (HDR). The digital scan document is processed and classified to identify the hand written words into digital text so that it can be used to keep it in the documents format means in computerized font so that everybody can read it properly. In this paper, it is discussed that classifiers like KNN, SVM, CNN are used for HDR	Handwritten digit recognition has immense applications in the field of medical, banking, student management, and taxation process etc. Many classifiers like KNN, SVM, CNN are used to identify the digit from the handwritten image. as per the review, CNN is providing better performance than others. Stages of HDR using CNN classifier is discussed in this paper.