

A Novel Method for Handwritten digit Recognition System

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LITERATURE SURVEY

Here are a few of the earlier attempts to develop a novel technique for handwritten digit recognition.

S.No	Author&Year	Title	Methodology	Dataset used	Inferences
[1]	Ishani Patel, Virag Jagtap and Ompriya Kale	Feature Extraction Methods for Handwritten Digits Recognition	1. Feature extraction process. 2. Classification of feature vector into digits.	MNIST	ANN carried out the classification. Recognition based on Histogram of Oriented Gradientfeature. For classification of features, linear Proximal Support Vector Machine Classifier is proposed. Due to small training time, PSVM classifier is preferable over standard Support Vector Machine (SVM) Classifier

[2]	Rohini.M ,Dr. Surendran	A Novel Method For Handwritten Digit Recognition System	Compare the results of CNN with Deep Learning algorithm like multilayer CNN using Keras with Theano and Tensorflow.	MNIST	According to the experimental results, CNN model achieved the best accuracy, which was 97.69%. The training loss value was 0.0107.
[3].	Laxmi Narayana Pondhu, Govardhani Pondhu	Tuning Convolution Neural networks for Hand Written Digit Recognition	Achieve better accuracy with simpler models by tuning hyper-parameters of the model. Hyperparameter tuning is required for neural networks to improve the accuracy and to reduce the training time of neural networks.	Handwritten digits - Kaggle	It can effectively classify the digits. The experimental result shows that the proposed model is giving 99.54% on test set.
[4]	S. M. Shami m, Md Badrul Alam Angona Miah, Angona Sarker, Masud Rana , Abdulla Al Jobair	Handwritten Digit Recognition Using Machine Learning Algorithms	The main objective of this paper is to ensure effective and reliable approaches for recognition of handwritten digits. Several machine learning algorithms namely, Multilayer Perceptron, Support Vector Machine, Naïve Bayes, Bayes Net, Random Forest, J48 and Random Tree.	WEKA	Machine learning techniques are used to predict the handwritten digits. Experimental results show that the handwritten digits can be accurately classified.

[5]	Ali Abdullah Yahya	A Novel Handwritten Digit Classification System Based on Convolutional Neural Network Approach	1. The size of the effective receptive field (ERF) is calculated. 2. data preparation is applied 3. data augmentation 4. add an additive white Gaussian noise with $\sigma = 0.5$	MNIST dataset	Calculating the size of the ERF helps us to select a typical filter size which leads to enhancing the classification accuracy of our CNN. CNN algorithm achieves state-of-the-art results in handwritten digit recognition, with a recognition accuracy of 99.98% and 99.40% with 50% noise.
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URL References:

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