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Review Report

Computer Applications Using an Intelligent Handwritten Digit Identification System

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ABSTRACT

A crucial application in the fields of computer vision and artificial intelligence is handwritten digit recognition, which aims to allow machines to correctly recognize handwritten digits despite variations in style, size, and orientation. Conventional methods rely on manually designed features, such as rule- based systems and early machine learning models like Support Vector Machines (SVM) and K-Nearest Neighbors (KNN). When confronted with the variability and noise present in real-world handwriting, these techniques frequently perform poorly, despite their ability to perform well on structured datasets. Convolution Neural Networks (CNNs), which automatically extract spatial features from raw images, are the basis of the sophisticated digit recognition system presented in this paper. CNNs are perfect for image classification tasks because of their high effectiveness. Over 99% accuracy is attained by the suggested system. on the MNIST dataset and exhibits great relevance in practical settings like mail processing, banking, and education. The system overcomes the drawbacks of conventional methods by utilizing deep learning, providing increased adaptability and superior accuracy.

Keywords: Convolution Neural Networks (CNNs), MNIST Dataset, Deep Learning, Accuracy, and Adaptability, Image Classification.

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