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'Vedic' Sanskrit Language Character Recognition from Images using CNN and OCR

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Abstract: *Many scholars have recently been interested in deep learning and character recognition. Deep neural networks exhibit cutting-edge performance in many classification and identification issues. The Optical Character Recognition (OCR) algorithm takes an optical picture of a character as input and provides the corresponding character with its current meaning and execution time as output. It has several uses, including traffic surveillance, robotics, and the digitalization of printed documents. Convolutional Neural Network (CNN), a prominent deep neural network design, may be used to construct OCR. The standard CNN classifiers are capable of learning the significant 2D characteristics contained in pictures and classifying them using the soft-max layer. The CNN is used to extract features. Several common CNN classifiers were investigated in order to discover optimal CNN for extracting features that may be utilised in combination with ECOC classifier for accurate recognition of handwritten or any character in Sanskrit. The given handwritten character image dataset is used to train and evaluate the CNN-ECOC. The simulation results reveal that CNN provides greater accuracy and somewhat different meaning than the classic CNN classifier.*

Keywords: Character recognition; Classification; CNN; Deep learning; OCR; SVM.

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