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(57) Abstract :
The proposed model introduces an effective deep learning based TCR model for printed and handwritten characters (DLTCR-PHWC). The proposed DLTCR-PHWC technique (fig1) aims to detect and recognize the printed as well as handwritten characters that exist in the same image. Primarily, image pre-processing is performed using the adaptive fuzzy filtering technique (2). Next, line and character segmentation processes (3) are performed to derive useful regions. In addition, the fusion of EfficientNet (4) and CapsuleNet (5) models is used for feature extraction. Finally, the Aquila optimizer (AO) (7) with bi-directional long short-term memory (BiLSTM) model (8) is utilized for recognition process. A detailed experimentation of the proposed DLTCR-PHWC technique is investigated using Telugu character dataset and the simulation outcome portrayed the supremacy of the proposed DLTCR-PHWC technique over the recent state of art approaches.

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