













research utilizing a CNN architecture, combined with a CNN-SVM, and the proposed YOLOv8 model. Upon testing the system, it can be concluded that the YOLOv8l model is the most effective model when tested using the SGD optimizer with a learning rate of 0.01, achieving a precision value of 98.5%, a recall value of 95.7%, an F1 score value of 97.1% and a mAP value of 95.5%. In this study, the author demonstrated an improvement in the mAP value from the previous research conducted using the CNN model and the combined CNN-SVM model, with values of 87.82% and 88.21%, respectively, to a mAP value of 95.5%, achieved using the YOLOv8l model. The objective of this research is to assist individuals in the accurate and precise identification of hiragana letters. In the future, we aim to expand the number of datasets and employ a broader range of hyperparameter values to optimize the classification precision and accuracy of the Hiragana Letter Detection system.

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