PROJECT REPORT

COMPARISON OF CNN CUSTOM, MOBILENETV2 AND VGG16 MODELS IN FACE EMOTION RECOGNITION

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ABSTRACT

Facial emotion recognition is an important field in computer vision and artificial intelligence that has various applications, such as human-computer interaction, health, and security. This research aims to implement and compare the performance of three Convolutional Neural Network (CNN) architectures in recognizing facial emotions, namely custom CNN models, VGG16, and MobileNetV2. In this research, custom CNN models, VGG16 and MobileNetV2 were built using the transfer learning method. The models were trained and evaluated using the FER2013 dataset taken from kaggle, which includes expressions such as happy, sad, angry, surprised, afraid, and neutral. The dataset will then be augmented to get more optimal results. Performance evaluation is performed using key metrics, including accuracy, precision, recall, and F1-score.

Keywords: Facial Emotion Recognition, Convolutional Neural Network, VGG16, MobileNetV2