

## **Analisis Metode Augmentasi Data untuk Klasifikasi Objek pada Dataset CIFAR-10**

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### **Abstract**

Convolutional neural networks (CNNs) are one of the most accurate object classification methods, but their accuracy depends on the quality and quantity of training data. Therefore, the use of big data is essential. However, big data also generally requires a large cost. An alternative is to use a regular dataset, but the accuracy produced is not as good as when using big data. Augmentation using the right parameters and techniques on the dataset can improve the accuracy of the model that is built. One of the most popular datasets used to develop machine learning models and CNNs is CIFAR-10. In this research, an exploration of data augmentation methods was conducted to improve the performance of the classification model using the CIFAR-10 dataset. Data enhancement methods such as rotation, flip, shift, and zoom were used to increase the number and variation of the dataset. The results of the experiment showed that data augmentation methods can improve the object classification model's accuracy by 7.73%.

**Keywords:** CNN, object classification, data augmentation, CIFAR-10.