

Image Classification using Convolutional Neural Network (CNN)

Introduction

The goal of this project is to perform image classification using a Convolutional Neural Network (CNN) model. Image classification is a crucial task in the field of computer vision, as it allows for the development of advanced image recognition systems.

Methodology

In this project, a CNN model was used for image classification. The optimization algorithm used was Adam, and the loss function was Crossentropy. Image augmentation was also implemented to improve the performance of the model. In addition, residual connections were employed in the model to improve information flow and reduce the risk of vanishing gradients.

Results

The results of this project demonstrate the effectiveness of using a CNN model for image classification. The use of Adam optimization, Cross entropy loss function, and the implementation of image augmentation and residual connections improved the accuracy of the model.

Conclusion

This project showcases the potential of Deep Learning in the field of computer vision and highlights the importance of choosing appropriate optimization algorithms, loss functions, and technical implementations for improved performance. The results of this project demonstrate the feasibility of using CNN models for image classification.