ABSTRACT

Enhancing Visual Quality of Images with Improved GAN and CNN Models

Many people are interested in automatic image coloring, which can be used to restore old or damaged images by improving their quality. This technology transforms grayscale or poorly colored images into vivid, realistic representations. Current automatic coloring methods, however, face significant limitations. These issues arise mainly from a lack of sufficient resources and inaccuracies in the coloring techniques, resulting in outputs that may not meet the desired level of fidelity or aesthetic quality. These shortcomings highlight the need for more effective solutions to achieve higher accuracy in image colorization.

To address these challenges, this research proposes an improved automatic image colorization method leveraging advanced Generative Adversarial Networks (GAN) and Convolutional Neural Networks (CNN). The combination of GAN and CNN technologies enables the model to learn complex patterns and features in images, thereby producing more accurate and visually pleasing colorized images. We utilized extensive datasets from Kaggle to train our model, ensuring a robust and comprehensive learning process. Our experimental results demonstrate that this method significantly enhances the quality of old or damaged images, providing a superior alternative to existing automatic coloring techniques.

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