

Research on improving techniques for detecting and replacing objects in video

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Abstract: This study focuses on improving techniques for detecting and replacing objects in video, a key area of computer vision. The main objective is to enhance the accuracy of object recognition and ensure spatio-temporal consistency throughout the replacement process. The approach is based on optimizing deep neural network architectures, closely combining entity segmentation with advanced context inpainting techniques. By exploiting optical flow features, the research proposes a workflow that minimizes motion blur and structural misalignment between consecutive frames. The expected result is a system capable of natural object replacement, achieving high performance in visual quality. This topic makes a significant contribution to automating video post-production, while providing an optimal solution for current augmented reality applications.

Keywords: object detection, video object replacement, deep neural network, temporal consistency, video post-production