

Style Transfer for 360 images

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University of Dublin, Trinity College, 2020

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The creation of art requires the work of a professional and an investment of time. There are clear advantages to be derived from deep learning-based style transfer, a practice that entails the extraction of content and style characteristics from one form and applying it to another. Currently, VR is increasing in popularity and 360 images are being readily utilised for their capacity to capture rich scene information. As such, style transfer for 360 images will undoubtedly be a crucial tool used to address the future visual needs of users. However, in light of the special spatial distribution inherent in 360 images, special attention must be paid to ensure that the consistency of pixels and boundaries after style transfer is appropriate to create a realistic image.

The contribution of this thesis is to experiment with these problems and evaluate the solutions devised to address such problems. On the basis of fast style transfer, four distinct methods are adopted in the present study: direct processing, simple extension followed by re-cutting, SIFT, and filling with mean value after Cubemap and Equirectangular. The user's perceptual opinions will then be analyzed by carrying out standard statistical analysis. The results of this research will demonstrate that these various methods can be differentiated based on their border effects as SIFT is greater than simple, mean, and direct. However, it should be noted that some differences between different images and styles will persist.