Deep Learning based Generative Inpainting for VR

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The core objective of this study is to be able to successfully inpaint 360° images. The need to inpaint 360° images comes due to high occurrences of stitching artefacts and unwanted objects, while capturing the image. In this study, we begin by exploring existing state of the art inpainting techniques. It is found that, existing state of the art inpainting techniques focus on inpainting 2D images, and that, there are very few studies that discuss inpainting 360° images. We study in-depth about generative adversarial networks which is extensively used in inpainting tasks to produce novel image content. We also explore different projections of spherical image to better understand handling distortion. We propose a network that transforms a spherical image into different projections and try to utilise existing state of the art techniques to perform inpainting. Overall, the results from our model are at par or better than existing state of the art models, with scope for better performance based on better techniques to handle distortion. Therefore, we also propose future work that can potentially handle distortions within the inpainting network.