Custom Workflow Proposal

Neural style transfer is a popular technique used to generate artistic images by transferring the style of one image onto the content of another. My proposed custom workflow aims to leverage this technique by using neural style transfer on video data to create visually appealing and engaging content for various applications, with the user being able to control certain parameters of the model to best fit their needs.

My proposed custom workflow will use neural style transfer on image data to create new, stylistically modified images from user inputs. The VGG19 model will be used to extract content and style features from the input images. The style features will be extracted from a style reference image, while the content features will be extracted from the input image. The content features will be optimized to match the style features, resulting in a stylized version of the input image.

In addition, users should eventually be able to control certain hyperparameters of this workflow, specifically being able to control whether the optimization of style loss or content loss is more important for their purposes (i.e. User finding a balance between transferring more “style” onto the input image vs retaining more of the original image).

Input will take this form:

{

‘style_image’ : https://iiif.micr.io/giZUM/full/1280,/0/default.jpg,

‘content_image’ : https://images.pexels.com/photos/1770809/pexels-photo-1770809.jpeg?auto=compress&cs=tinysrgb&dpr=1&w=500,

‘style_weight’ : 0.5,

‘content_weight’ : 0.7

}

Output will be in the form of a .jpeg file.