NANYANG TECHNOLOGICAL UNIVERSITY
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StyleGAN with Toonification

Localized Style Transfer with Control in Output

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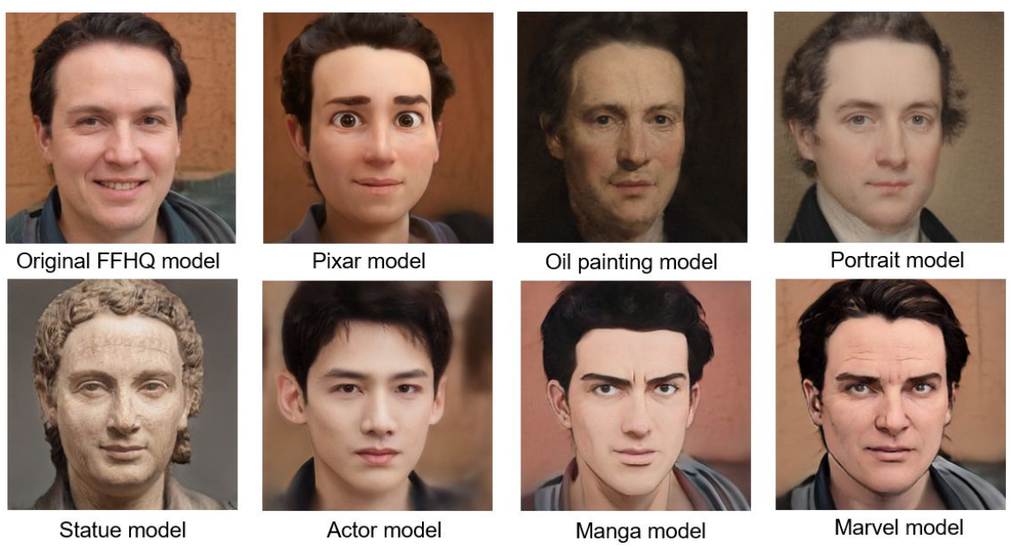
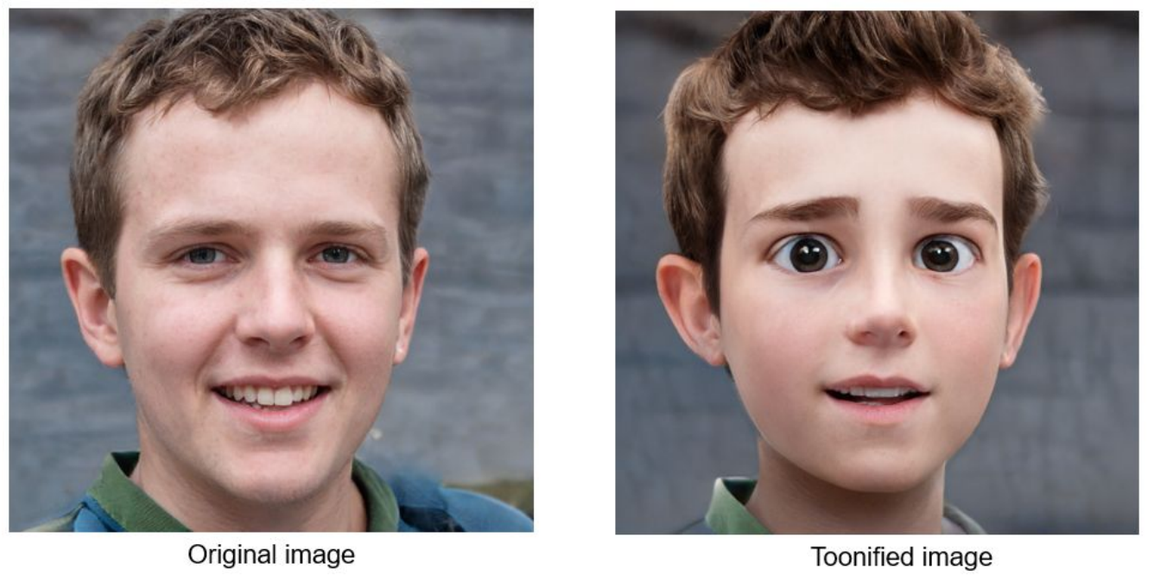


Style transfer example



Toonification example

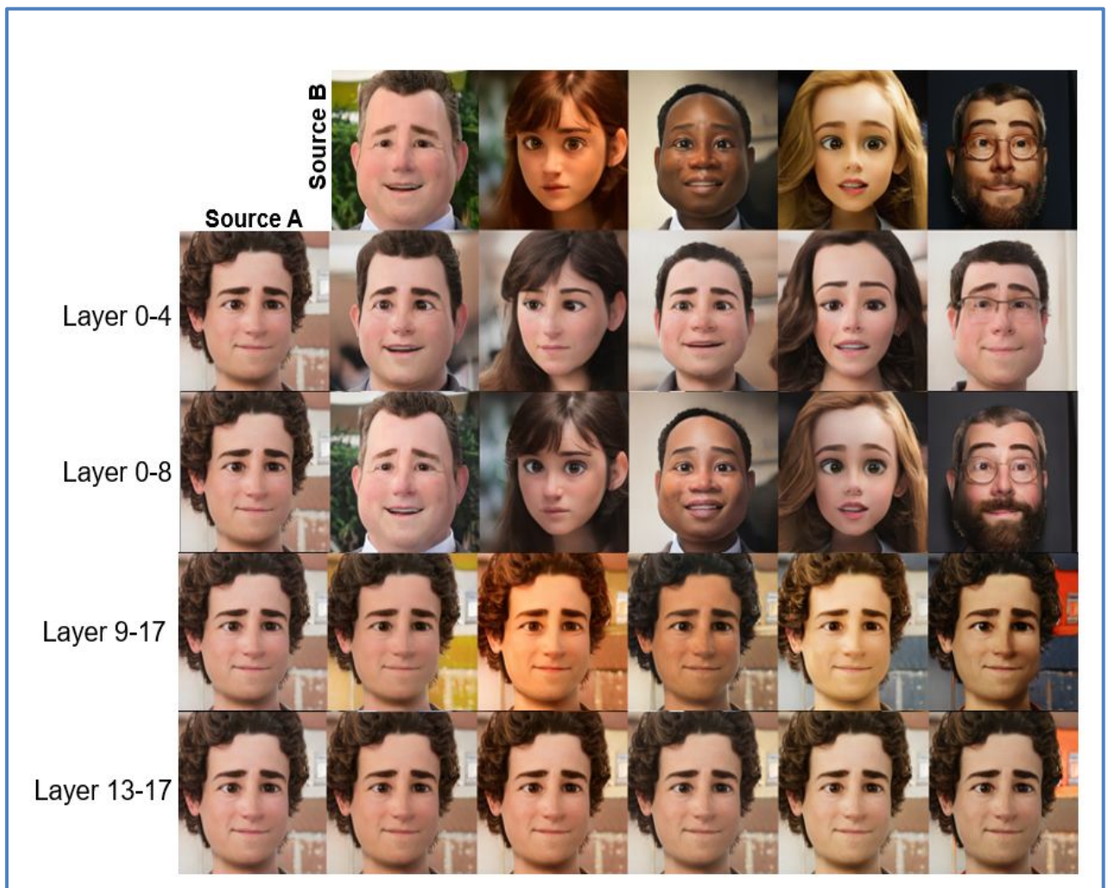
Project Objectives:

This project addresses the limitation of current style transfer techniques, which is the failure to adjust structural features of the stylized image and lack of control over the output image. The project also provides a collection of styles for style transfer of user input image using the StyleGAN generator, available in different image sizes. In addition, Toonification is achieved and improved, where realistic human textures can be retained with toonified structural features in output image. Therefore, style transfer will no longer be limited to texture and color transfer.

Style mixing, together with Toonification, further allow control over both the high-level aspects and fine-level color features of the generated toonified images. This can be extended to a real time arbitrary style transfer where users can easily alter specific features (such as hair colour and glasses) of their toonified images regardless of their input image size.

Style Mixing

Style mixing allows image generation with features extracted from two different source images since each subset of resolution layers controls meaningful image attributes. The low resolution layers control the high-level aspects while the high resolution layers affect the fine details of the image. Through interpolation of style mixing layers between two images, finer control of specific features of the toonified image can be achieved.



Style mixing on toonified images