

REALSKETCH: SKETCH TO PHOTO-REALISTIC IMAGE GENERATOR

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ABSTRACT

Generative Image modelling is a vast area of research in computer vision that many studies have been conducted to address such issues as an image to image translation. In this research, the gap between the industrial designers and their production workflow can be bridged in order to reduce the cost of the time they spend on prototyping. This research also demonstrates an image synthesizing technique by improving an existing technique to generate a photo-realistic image of a real-world object from a sketch. Designing and Implementing an image generator which could generate photo realistic images using sketch consist of several phases of development and the main stage of development is building Generative Adversarial Network capable of translating one form of image to another form. The main component of the implemented system can also be defined as an image generator and this project mainly focuses implementing and improving the efficiency of the generator.

Implementing an Image generator which could generate photo-realistic image includes several types of tasks. One of the main tasks is integrating a new architecture which is Nested U-Net to the generator model and manipulating it to improve the outcome of the model. The integration of a new network architecture to the existing baseline to improve the system in generating photo realistic images shows promising results when compared to the existing systems the implemented system could generate images with more accuracy and more photo realistic. The implemented system RealSketch takes a sketch image as an input and the system tool will generate the photo realistic image representation of the uploaded sketch image.

Keywords:

GAN - Generative Adversarial Networks, U-Net, Nested U-Net, Generative Image Modelling, Image-to-Image Translation,