UCCTGAN: Unsupervised Clothing Color Transformation Generative Adversarial Network
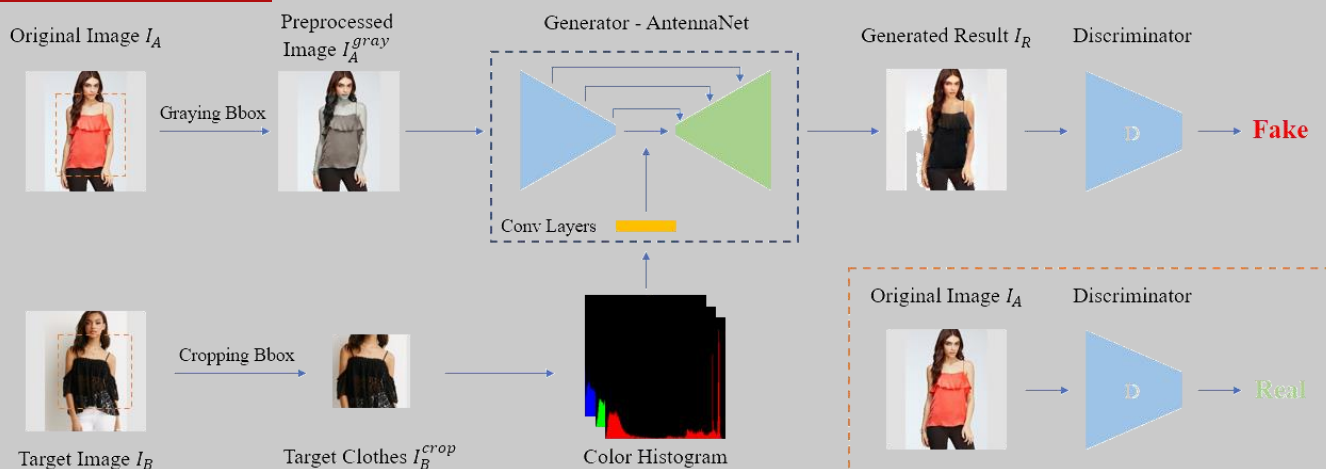
Shuming Sun, Xiaoqiang Li*, Jide Li

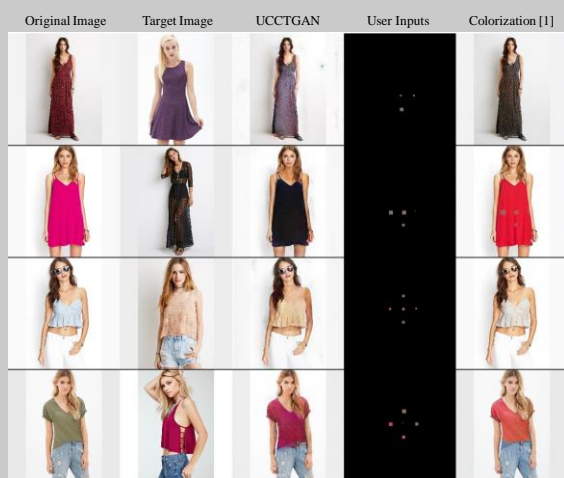School of Computer Engineering and Science, Shanghai University, China

Introduction

Despite the diversity of fashion items in online or offline shopping, consumers' requirements still cannot be met. When people are matching their tops and bottoms, they probably come across a situation that they are not satisfied with the color while they are fond of the style. If customized clothing color transformation service is provided, they can foresee the matching effect of the clothing with different colors and styles and purchase their desired customized clothing. When selecting clothing color, a better option is to refer to another clothing with a desired color rather than directly select based on simple RGB values in color palette, which is less perceptual. Therefore, the clothing color transformation task we are going to solve in this paper is defined as: transforming the color of the clothes in an original image into the target clothing color in another image.

Methods

Qualitative Comparison

Quantative Comparison

Model	FID	Wasserstein Distance
Colorization [1]	268.404	0.1694
UCCTGAN	**36.794**	**0.1685**

Experimental results

Failure cases

(a) Failure case 1

(b) Failure case 2

(c) Failure case 3

Reference: [1] R. Zhang, J.-Y. Zhu, P. Isola, X. Geng, A. S. Lin, T. Yu, and A. A. Efros, "Real-time user-guided image colorization with learned deep priors," ACM Transactions on Graphics (TOG), vol. 9, no. 4, 2017.