SmallSEOTools

PLAGIARISM SCAN REPORT

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2.1 PROBLEM STATEMENT
The problem can be divided into two sub-problems:
• Create an efficient model to colorize grayscale images
• Take a colorized image and upscale it n times the original size
2.1.1 Goals and objectives
Goal and Objectives:
• Auto-Colorization:
– The first model will be given input a grayscale, low resolution image of dimensions (64641)
– The model will perform a series of mathematical operations that will increase the channel width of the image from 1 (single channel grayscale image) to 3 (RGB)
– The output of the model will be a colorized version of the input image with dimensions (64643)
• Upscaling/super-resolution:
– The input to the model will be a colorized image of shape (64643)
– The model will increase the dimensions of the image from (6464) to ((64 n)(64 n)) by performing a series of upscaling operations and predicting information that may be lost while downscaling
– The output of the model will be an upscaled RGB image with dimensions ((64 n)(64 n)3)
• The models may be combined to form a single model that will take a low resolution, grayscale image as its input and produce a high resolution, colorized image as its output
2.1.2 Statement of scope
• The model will consist of neural networks implemented using deep learning frameworks that will accept images of input format JPEG
• The input will be grayscale images of size 6464
• Input bounds:
– Lower bound: 64641
– Upper bound: no limit
• The output will be produced in two phases:
– A colorized output of model 1 with shape 64643
– A upscaled output of model 2 from the colorized output of model 1 with shape (64 n)(64 n)3
• The model will:
– take input black & white images
– produce colorized images of the same size
– produce upscaled images of size n times the input size (currently 64)

• The model will not:
– take a colorized image as an input
– take an image of size less than (6464) in size
– produce accurate upscaling or coloring albeit merely make a guess at what the lost values might be

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