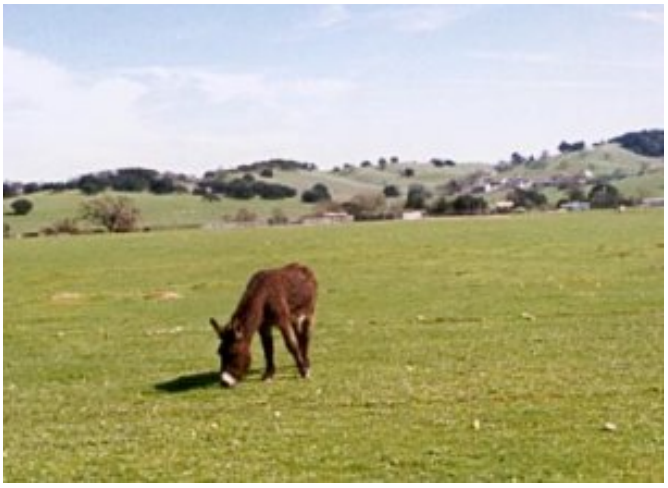
CPSC 340 Assignment 3 (Texture Synthesis)

October 26, 2018

1 Donkey Image - Before



2 Donkey Image - After

3 Tree Image - Before

4 Tree Image - After

5 Drop Image - Before

6 Drop Image - After

7 Question - 7

- randomPatchSD helps us choose the right patch. Since the patch cannot be too uniform, we use random.gauss(0, randomPatchSD) to pick a of gaussian distribution with mean 0 and standard distribution. This chooses a variation of patch with the lowest SSD. If randomPatchSD is too large, there will be a high variation in texture, and many patches chosen may be poor fits. If randomPatchSD is too small, there will be a very uniform fill (unnatural).
- patchL specifies how large the patches will be. The larger the patchL there is, the more it is able to match the surrounding context and repeat patterns. However, if patchL is too large, the patches will become noticeable since it will be copying full features of the image and not just the textures. If

patchL is too small, it won't be able to accurately replicate the textures since it's looking for the best match at a too small of scale.