

Improving JPEG Compression Using Mutations and Deep Learning Our Best Results

In addition to testing the mutated JPEG algorithm on our Test Image Set, we also tried it on a variety of other random images from internet. Here are some of our best results. As you can see the improvement over standard JPEG can reach as high as %26.

Standard JPEG



Quality Factor: 90
SSIM: 0.986794
File Size: 22730
BPP: 1.047659

Mutated JPEG



Quality Factor: 90
SSIM: 0.986819
File Size: 16719 (%26.4 less)
BPP: 0.770603



Quality Factor: 90
SSIM: 0.969522
File Size: 50376
BPP: 2.308284



Quality Factor: 90
SSIM: 0.969526
File Size: 41123 (%18.4 less)
BPP: 1.884302

Standard JPEG



Quality Factor: 90
SSIM: 0.978035
File Size: 36978
BPP: 1.694373

Mutated JPEG



Quality Factor: 90
SSIM: 0.978061
File Size: 30119 (%18.5 less)
BPP: 1.380086



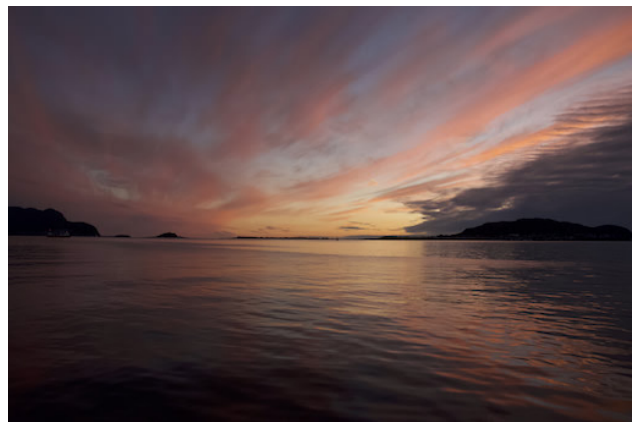
Quality Factor: 90
SSIM: 0.976099
File Size: 38591
BPP: 1.768283



Quality Factor: 90
SSIM: 0.976143
File Size: 30568 (%20.8 less)
BPP: 1.40066



Quality Factor: 90
SSIM: 0.977075
File Size: 38963
BPP: 1.785328



Quality Factor: 90
SSIM: 0.977079
File Size: 32621 (%16.3 less)
BPP: 1.494731