Original Image

Color Space Transform

Chroma downsampling

Y

C_B C_R

Patchify

Y

C_B C_R

Flatten and Stack Patches

Quantization-aware Matrix Factorization

X_Y

X_{C_B}

X_{C_R}

U_Y V_Y ^{T}

U_{C_B} V_{C_B} ^{T}

U_{C_R} V_{C_R} ^{T}

Reshape Factors

Basis maps

Coefficient maps

Lossless (image) Compression

Encoded Image

0
1
0
0
1
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