Why isn't CMY suitable for printers?

The cyan, magenta, and yellow (CMY) inks used in printing are not perfect and do not absorb light perfectly. As a result, mixing these inks in equal amounts does not produce a pure black but rather a dark brown or seppia color. To achieve a true, deep black, essential for high-quality text, an additional black ink is used. Furthermore, printing with composite black uses more ink and results in higher costs. That's why adding black (K) to CMY model is crucial for printers.

Why do YUV, YIV and YCbCr color models use blue and red chrominance and not green chrominance?
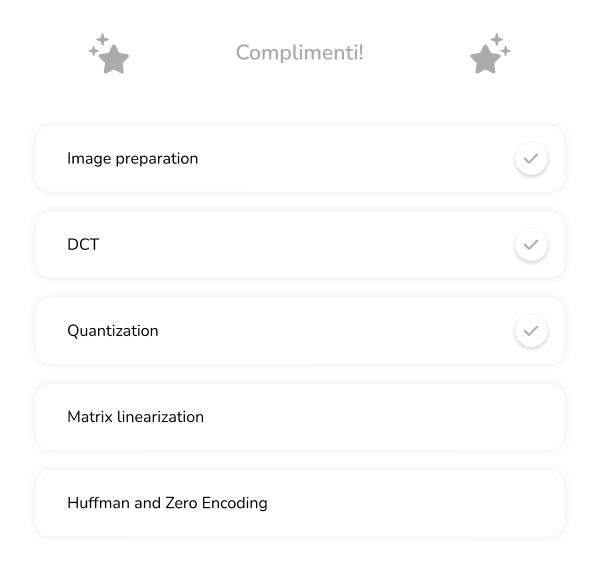
Our eyes are more sensible to the green color. In fact, YUV, YIV and YCbCr models use blue and red chrominance because the component Y (luminance) can reconstruct the color green so it is not necessary to use it as a different chrominance component.

Which are the steps of the JPEG compression which lose data?

Complimenti!

Image preparation ✓

DCT ✓

Quantization ✓

Matrix linearization

Huffman and Zero Encoding

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Identify areas of the image that can be complicated for JPEG compression

The highlighted area is challenging for JPEG compression since the t-shirt is striped with much differentiation of colors and this can create a blocky image as result of the compression. This is due to the fact that each 8x8 block does not know anything about adjacent blocks.

✅ **striped shirt**

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