

You're given an image straight out of the camera pipeline.
What techniques can you think of to compress that image?
(i.e., reduce the bits necessary to store it)

EE 193 Imaging systems: Image compression

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Bitmap (.bmp) and Portable Graymap (.pgm)

No compression

Store metadata in a small header

Image data follows, as a binary or ASCII blob

PPM (portable pixmap) file

P3 File type

100 75 Width/height

255 Max value / bit depth

And off we go!

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53

Graphics Interchange Format (.gif)

Only 8-bit (256 colors), but can use a palette

Dithering can reduce the banding effects

Compressed using Lempel-Ziv-Welch (LZW)

Portable Network Graphics (.png)

Created as a free/open alternative to GIF

Joint Picture Experts Group (.jpg, .jpeg)

Designed for natural images (and not digital-born graphics)

Exploits sparsity in the frequency domain

A few more...

JPEG-2000

TIFF