Image Processing 4 Report
Spring 2022, UofM
JPEG Compression
Bereket Kebede

The objective of this assignment is to implement a jpeg baseline compression implementation. The main goal of Image compression is to reduce the number of bits used to store or transmit information. Jpeg is a lossy compression, meaning it will result in a certain loss of accuracy in exchange for a substantial increase in compression. The jpeg compression we will implement will use Huffman coding. Huffman coding could perform effective data compression by reducing the amount of redundancy in the coding of symbols. Huffman coding [1952] shares most characteristics of Shannon-Fano coding. It has been proven to be the most efficient fixed-length coding method available.

> im2jpeg: compresses image X based on 8 x 8 DCT transforms, coefficient quantization, and Huffman symbol coding.

Supplementary

(a) To compile and link unravel on a Windows platform from the MATLAB, use the following command line prompt in MATLAB.
>> mex unravel.c

(b) If you get the error below, then install the appropriate package first (install MinGW-w64 Compiler)
Error using mex. Supported compiler not detected. You can install the freely available MinGW-w64 C/C++ compiler; see Install MinGW-w64 Compiler.
For more options, visit https://www.mathworks.com/support/compilers.