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CS 415

Mini Project 1

Question Answering

Q1.

1. The goal of computer vision is to extract semantic and geometric information from an image.
2. Optical Character Recognition (OCR) - used to automatically process checks or in license plate readers.

Face Recognition - Can be used for phone security measures or for analyzing human biometrics.

Image synthesis - Creating new images from some form of image description. Used in generating scenes based on geometric shape descriptions for computer graphics.

3. An rgb image is made of 3 matrices containing the intensity values for the colors red, green, and blue respectively. The matrices contained a value of 0 to 255 (encoded in one byte) in each cell to represent how high/low the value is.

Q2.

Correlation and convolution are the same in that they both apply a kernel to each pixel in an input image to change its value. The difference is that in convolution, the kernel is rotated 180 degrees. The process for applying the kernel remains the same in both cases.

Another difference is that the convolution operation is commutative and associative while correlation is not.

Q3.

