



# CS 7345 ADVANCED APPLICATIONS: REALTIME IMAGE PROCESSING WITH CONVOLUTION FILTERS

**Overview:** Create a library and application that will take input images/video and apply convolution effects in realtime.

**Filter Types:**

1. Project should use either 3x3, 5x5, 7x7 or 9x9 kernels
2. Project should include at least 6 convolution filter effects.
  - a. The following 4 techniques are required: Sharpen, Emboss, Gaussian Blur, and Laplacian of Gaussian (LoG)
  - b. You may pick any other 2 filters/kernels
3. Convolutions should be performed in library code, with resulting image passed back to application
4. Results of convolutions should be show in realtime.
  - a. Images can be uploaded/included in application or can be grabbed from web camera with effects applied in realtime.
5. Application should allow user to apply/remove effects in realtime