Exercise No. 3 Image Sharpening Filters

Implementation of image sharpening filters.

Objectives

To apply sharpening filtering to highlight fine details of the small objects on the image.

Concept

Image sharpening filters are used to enhance the clarity and detail of images by emphasizing edges and fine details.

Laplacian Filter: Enhances edges by highlighting rapid intensity changes in the image.

High Boost Filtering: Enhances edges while minimizing noise amplification.

Procedure

- Read an image into the workspace and display it.

  a = imread('hestain.png'); imshow(a)

  title('Original Image');

- Sharpen the image using the imsharpen function and display it.
  b = imsharpen(a);

  figure, imshow(b)

  title('Sharpened Image');

- Control the Amount of Sharpening at the Edges. Read an image into the workspace and display it.

  a = imread('rice.png');

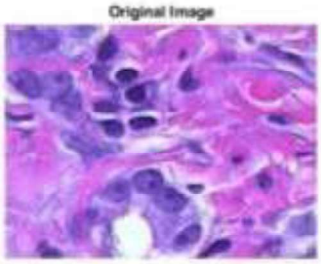
  imshow(a)

  title('Original Image');

- Sharpen image, specifying the radius and amount parameters.
  b = imsharpen(a,'Radius',2,'Amount',1);

  figure, imshow(b) title('Sharpened Image');

Sample Input



Output: