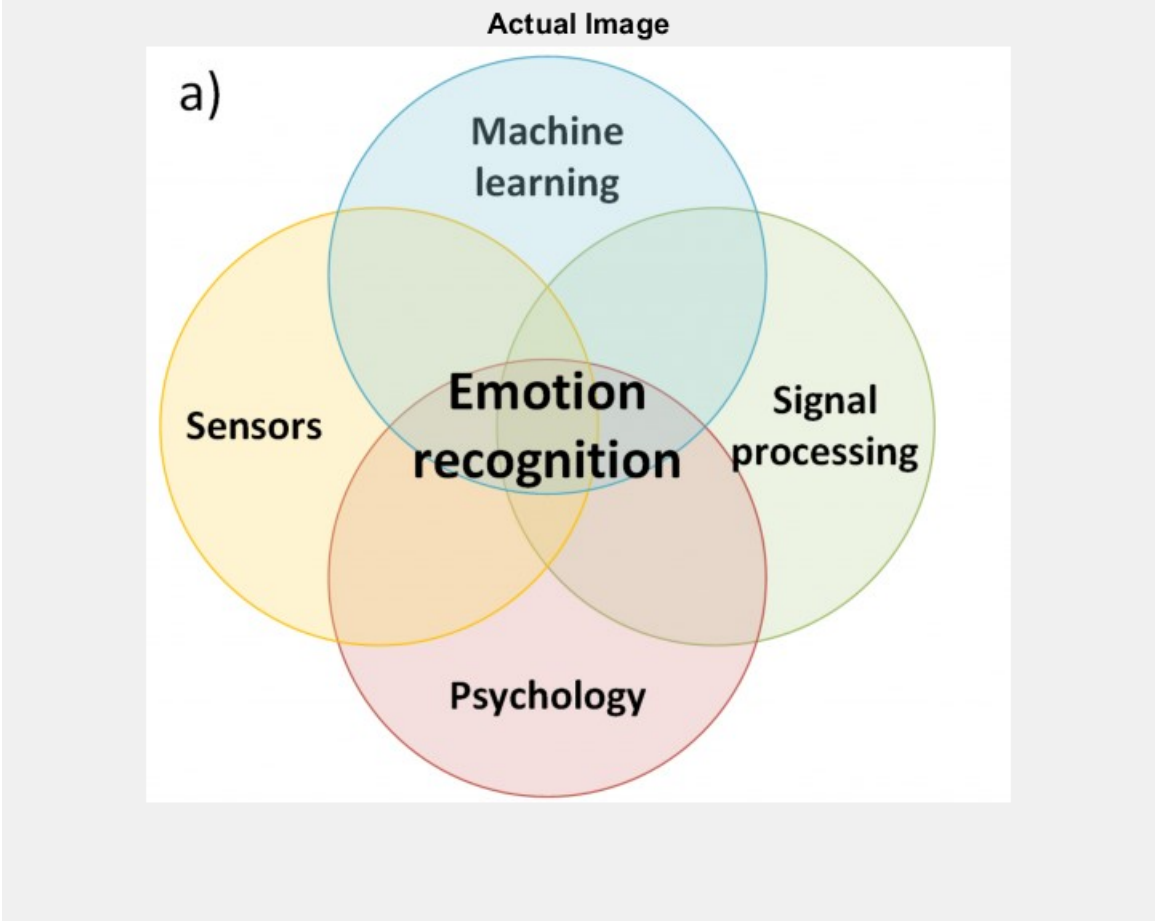
```
% Load image
img = imread('C:\Users\sathwik\Downloads\Samp.jpg');  % sample image from local
system
imshow(img);
title('Actual Image');
```



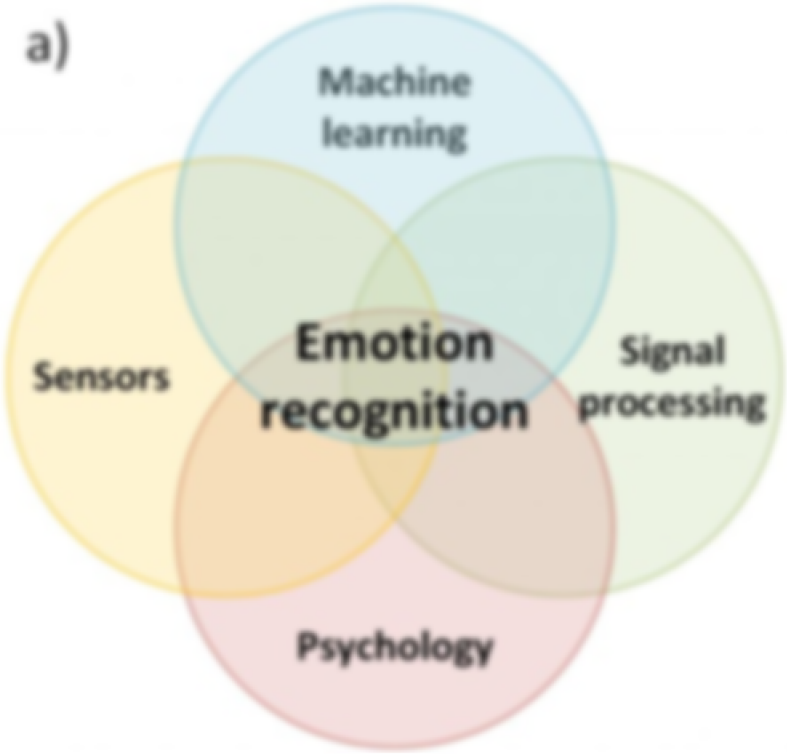

```
% Manually creating a binary mask by selecting ROI
binaryMask = roipoly(img);

% Display the mask
figure, imshow(binaryMask);
title('Binary Mask');
```

Binary Mask

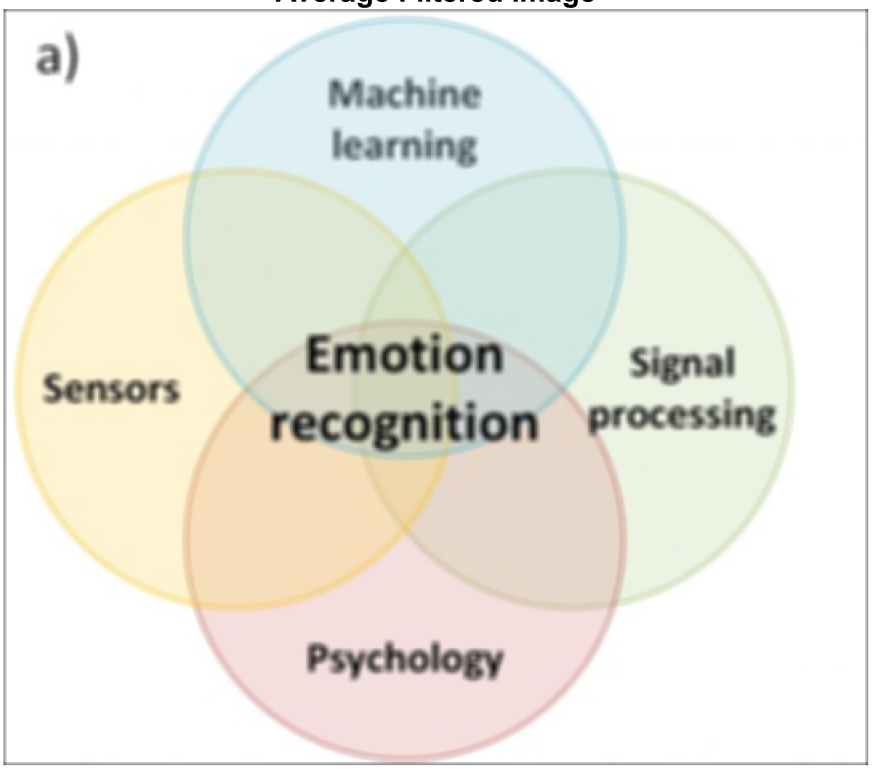
```
%  Gaussian filter with sigma = 2
gaussFiltered = imgaussfilt(img, 2);
figure, imshow(gaussFiltered);
title('Gaussian Filtered Image');
```

Gaussian Filtered Image



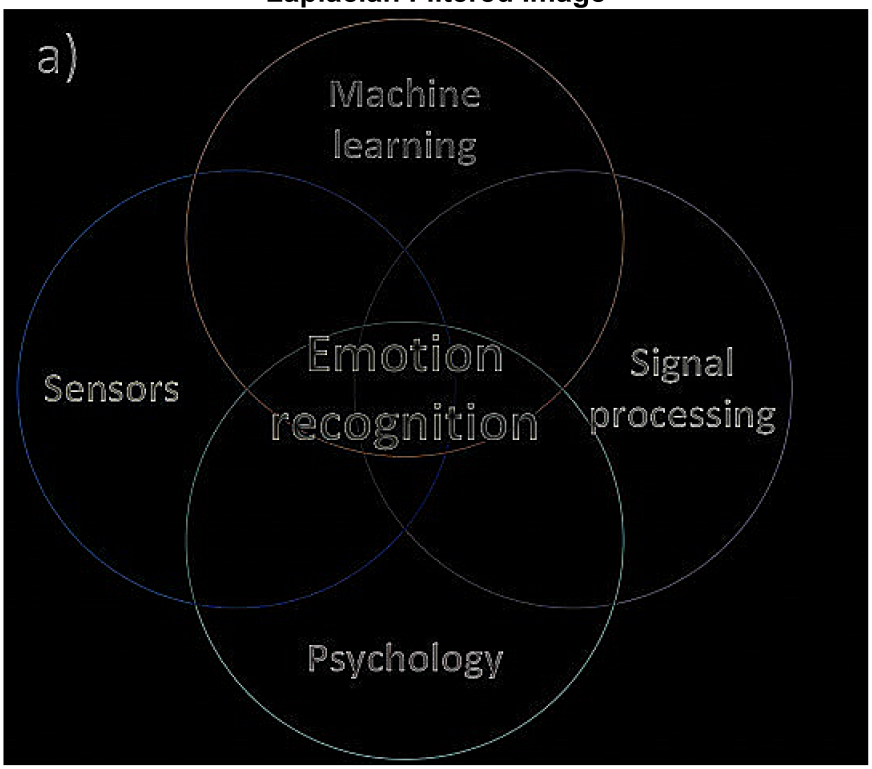

```
% Average filter
h = fspecial('average', [5 5]); % 5x5 average filter
avgFiltered = imfilter(img, h);
figure, imshow(avgFiltered);
title('Average Filtered Image');
```

Average Filtered Image




```
% Laplacian filter
laplacianFilter = fspecial('laplacian', 0.2);
lapFiltered = imfilter(img, laplacianFilter);
figure, imshow(lapFiltered);
title('Laplacian Filtered Image');
```

Laplacian Filtered Image




```
% Converting image to grayscale and application of Prewitt filter
grayImg = rgb2gray(img);
prewittFiltered = edge(grayImg, 'prewitt');
figure, imshow(prewittFiltered);
title('Prewitt Filtered Image');
```

Prewitt Filtered Image