**Open CV**

1. Read an image and specify color space while reading
2. Read an image & convert into different color spaces
3. Read an image & extract ROI out of it & change its values
4. Inputs two images & perform addition / weighted addition on it
5. Input two images & perform subtraction on them
6. Bitwise operation or binary image
7. Image resizing
8. Image transformations
9. Creating borders around image (padding )
10. Creating histogram, analyzing it changing histogram with contrast of image
11. Extract out objects of a certain color from the image using HSV color space and bitwise operation.
12. Reading images the through video frame from camera / video file
13. Find neighborhood pixels of a pixel & finding distance

-Euclidean

-Manhattan

-Checker board

1. Image enhancement in spatial domain

- Smoothing blurring

- Noise removal

- Creating your own filler

1. Histogram equalization & matching
2. Point processing operation on image

-Image negation

-Log transform

-Gamma transform

-Bit plan slicing

-Contrast starching

-Thresholding

-Global and local gray level slicing

1. Edge detection

-Filters

-Sable, Prewitt, Canny

1. Morphological operations

-opening, closing, gradient

1. Creating image pyramids & image blending using pyramids
2. Extracting & Displaying contours
3. Extraction properties of contours
4. Extraction feature of contours
5. Find Fourier transform of range
6. Find cosine transform of range
7. Object- detection using template matching
8. Image segmentation

-Water shed algorithm

-Background Subtraction

-Foreground extraction/

-Morphological Operators

For image segmentation

1. Feature extraction

-Havis Corner

-Corner (shi-Jomase)

-SIFT

-SURF

-BRIEF

-ORB

1. Image feature matching for object detection
2. Hough line transform
3. Hough level detection
4. Document field detection using template matching
5. Face detection
6. Eye detection
7. Smile detection
8. Drawing tool in python

-Line

-Arrow segment

-Eclipse

-Circle

-Rectangle

-Text eleving

-Conloui

-Ivingle

1. Play a video

-Create a video

-extract an ages from video

1. Implement KNN for image classification
2. Implement SVM
3. Implement K-mean clustering