Contour tracing of waveform-curves from screenshots of various ventilators (few samples)

Computer Vision (CS6350)
TPA-12

1.Problem statement:

In this assignment, the task is to extract the graph from the pulse images taken from the ventilator.

2.Input:

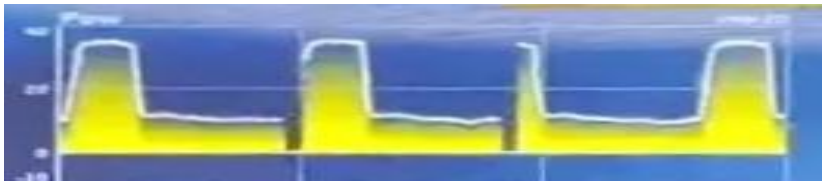
Pulse image from the ventilator

3.Output:

1. Output should be like the above graph
2. X-Y coordinates of the pixel values traced in above graph

4.Another example:

Input:



Output:

5.Dataset:

It will be provided by the TAs, once the problem statement is chosen.

6.References:

[1]. Ostu Thesholding- https://learnopencv.com/otsu-thresholding-with-opencv/

[2]. K-means clustering- https://towardsdatascience.com/k-means-clustering-algorithm-applications-evaluation-methods-and-drawbacks-aa03e644b48a

[3]. Connected components- https://medium.com/swlh/image-processing-with-python-connected-components-and-region-labeling-3eef1864b951

[4]. Morphological operations: https://www.cs.auckland.ac.nz/courses/compsci773s1c/lectures/ImageProcessing-html/topic4.htm

[5]. Gaussian mixture modeling: https://towardsdatascience.com/gaussian-mixture-models-d13a5e915c8e