# Intuition & Explanation

## General

KLT Tracking results are saved as .pkl file.

Read in .pkl file, for every frame, find corresponding tracking history.

Find fruits with age >= 4, find their positions in current frame and previous 3 frames.

## Remove outliers:

Firstly, find all pixels inside the window ((2mar1+1) \* (2mar1+1)) around fruit centers with intensity over a minimum threshold, and stack them over all iterations.

Divide the target color channel value with the sum of all color channel values to get the proportion of target color in fruit pixels, average over all pixels found in all iterations, obtaining pro\_all.

Finally, according to current frame’s pixels inside the window ((2mar1+1) \* (2mar1+1)) around fruit centers, calculate the proportion (pro\_cur) of target color in the same way as mentioned above. According to the difference between pro\_cur and pro\_all and intensity of the pixels, decide whether or not to keep it as a valid fruit track. If not, remove corresponding track in all four frames.