

Finding Faces and Tracking Objects

Algorithm

1. Find a face in frontal orientation
2. From this point track it as an arbitrary object as explained in “Tracking people from above.pptx”

In phase 1, two face detection methods from Matlab are applied on each frame (with interval 0.1 sec): FrontalFaceCART and FrontalFaceLBP.

A face is confirmed if both methods detect it in the same area over 3 consecutive frames.

Frame 40.0 sec.



Using Algorithm 1
(frame interval = 0.1 sec.)

FrontalFaceCART – green box
FrontalFaceLBP – red box

Frame 40.1 sec.



Frame 40.2 sec.



Frame 40.3 sec.



Counting ... 1

Frame 40.4 sec.



Counting ... 2

Frame 40.5 sec.



Counting ... 3
Confirmed

Frame 40.3 sec.



Switching to
Algorithm 2
(frame interval = 0.3 sec.)

Frame 40.6 sec.



Frame 40.9 sec.



Frame 41.2 sec.



Frame 41.5 sec.



Frame 41.8 sec.



Frame 42.1 sec.



Frame 42.4 sec.



Frame 42.7 sec.



Frame 43.0 sec.



Frame 43.3 sec.



Frame 43.6 sec.



Frame 43.9 sec.



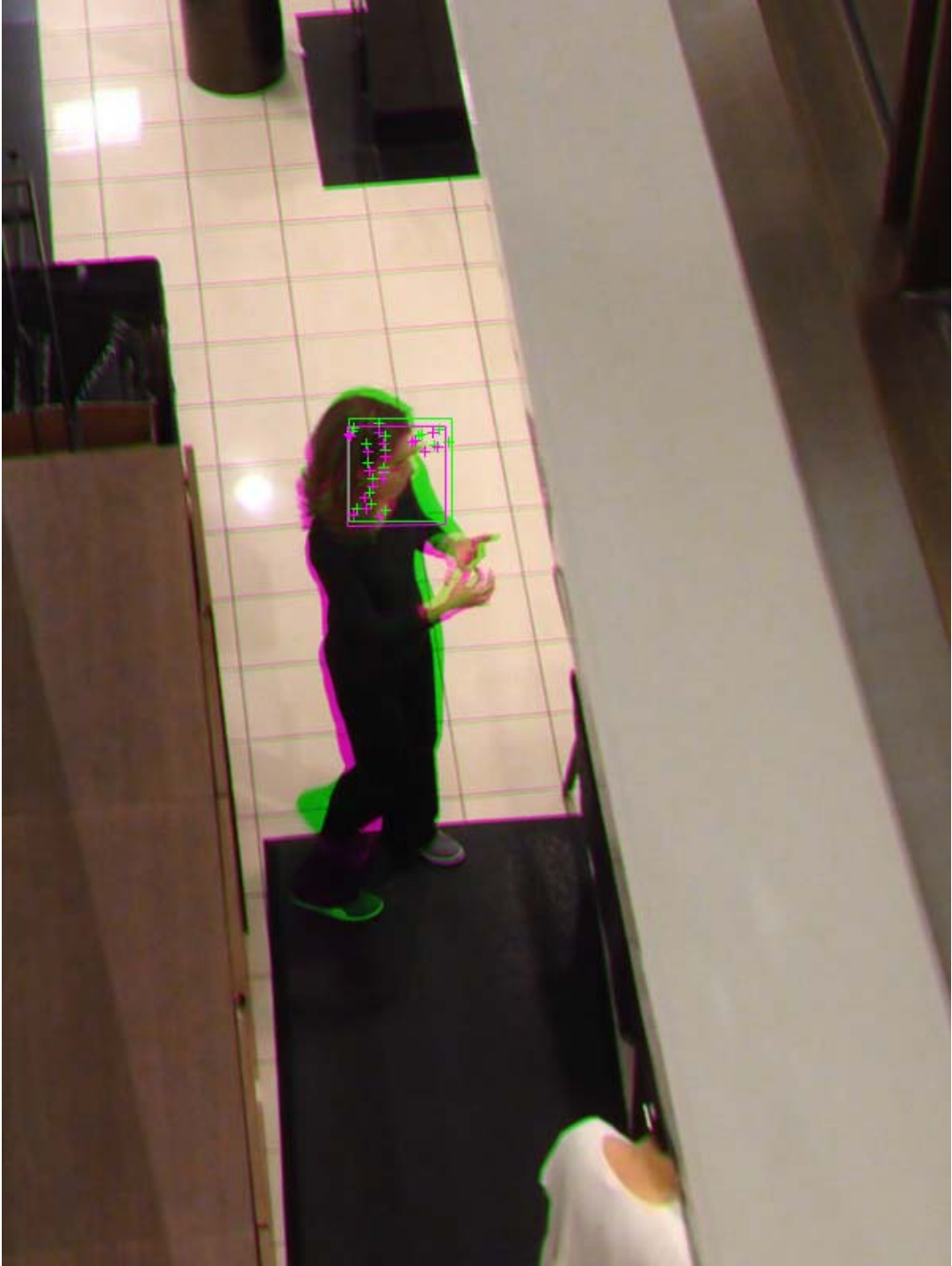
Frame 44.2 sec.



Frame 44.5 sec.



Frame 44.8 sec.



Frame 45.1 sec.



Frame 45.4 sec.



Frame 45.7 sec.



Frame 46.0 sec.



Collage



Notes

Once the face is found in frontal orientation, it can be tracked even when turned into profile orientation.