CLAIMS

1. A computer-implemented method for detecting a scene transition in video footage, the method comprising:

for each ofgrouping the video footage into a plurality of batches of frames in a sliding window;

processing each batch of frames, wherein the processing comprises:

for each frame in each of the plurality of the batches of frames:

identifying each detected object in each of the plurality of different frames of video footage, by a unique identifier, wherein the unique identifier is based on a spatial location of the detected object in the frame;

obtaining a value of a confidence measure associated with athe detected object in thea current frame; and

detecting a scene transition in the video footage based on a difference between the obtained valuesvalue of the confidence measure.

2. The method of claim 1, wherein detecting a scene transition based on the obtained values of the confidence measure comprises:

analyzing the obtained values of the current frame and the value of the confidence measure of a previous frame, wherein a gradual reduction in the value of the confidence measure to identify a trend or pattern in the valuesof the detected object over successive frames indicates a dissolve transition, and wherein a sudden change in the value of the confidence measure over the plurality of the differentdetected object over successive frames of video footage; and

identifying the sceneindicates a cut transition in the video footage based on the identified trend or pattern in the values of confidence.

3. 2. The method of claim 21, wherein identifying a scene transition comprises:

comparing the identified trend or pattern in the values of confidence with a predetermined trend of pattern; and identifying a scene transition in the video footage based on the comparison result.

identifying the scene transition in the video footage based on the comparison result.

4.

3. The method of either of claimsclaim 2 or 3, further comprising:

classifying the identified scene transition based on the identified trend or pattern in the values of confidence.

5. The method of any of the preceding claims, wherein detecting a scene transition based on the obtained values of the confidence measure comprises:

4. The method of claim 1, wherein detecting a scene transition based on the obtained values of the confidence measure comprises:

responsive to the obtained values of the confidence measure decreasing over successive frames of the video footage, determining the presence of a scene transition in the video footage.

~~6.~~ 5. The method of ~~any of claims~~claim 1 ~~to 4~~, wherein detecting a scene transition based on the obtained values of the confidence measure comprises:

responsive to the obtained values of the confidence measure increasing over successive frames of the video footage, determining the presence of a scene transition in the video footage.

~~7.~~ 6. The method of ~~any of the preceding claims~~claim 1, further comprising:

comparing the obtained values of the confidence measure with a threshold value; and

identifying at least one of a start and an end of the scene transition based on the comparison result.

~~8.~~

7. The method of claim ~~7~~6, wherein identifying an end of the scene transition comprises:

determining frames of the video footage for which the obtained values of the confidence measure decrease from a value exceeding the threshold value to a value not exceeding the threshold value; and

determining the end of the scene transition based on the determined frames.

~~9.~~ 8. The method of claim ~~7~~6, wherein identifying a start of the scene transition comprises:

determining frames of the video footage for which the obtained values of the confidence measure increase from a value not exceeding the threshold value to a value exceeding the threshold value; and

determining the start of the scene transition based on the determined frames.

~~10.~~ 9. The method of ~~any of the preceding claims~~claim 1, wherein obtaining values of a confidence measure comprises:

obtaining a first value of the confidence measure associated with the detected object in a first frame of the video footage; and

obtaining a second value of the confidence measure associated with the detected object in a second, subsequent frame of the video footage.

~~11.~~ 10. The method of claim ~~10~~9, wherein the first and second frames of the video footage are sequential frames of the video footage.

~~12.~~ 11. A computer program product ~~for detecting a scene transition in video footage, the computer program product~~ comprising~~:~~

a computer readable storage medium ~~readable by a processing circuit and storing~~ having program instructions ~~for execution by~~ embodied therewith, the program instructions executable by a processing unit to cause the processing ~~circuit for performing a method according to any of claims 1~~unit to ~~11.~~

~~13. A computer program stored on a computer readable medium and loadable into the internal memory of a digital computer, comprising software code portions~~perform, when ~~said program is~~ run on a computer~~, for performing~~ network, a method for detecting a scene transition in video footage, wherein the method ~~of any of claims 1 to 11.~~comprises the steps of:

~~14.~~ grouping the video footage into a plurality of batches of frames in a sliding window;

processing each batch of frames, wherein the processing comprises:

for each frame in each of the plurality of the batches of frames:

identifying each detected object in each of the plurality of different frames by a unique identifier, wherein the unique identifier is based on a spatial location of the detected object in the frame;

obtaining a value of a confidence measure associated with the detected object in a current frame; and

detecting a scene transition in the video footage based on a difference between the confidence measure of the current frame and the value of the confidence measure of a previous frame, wherein a gradual reduction in the value of the confidence measure of the detected object over successive frames indicates a dissolve transition, and wherein a sudden change in the value of the confidence measure of the detected object over successive frames indicates a cut transition.

12. A system for detecting a scene transition in video footage, the system comprising one or more processors and one or more tangible storage media storing programming instructions for execution by the one or more processors, the programming instructions comprising instructions for:

grouping the video footage into a plurality of batches of frames in a sliding window;

processing each batch of frames, wherein the processing comprises:

identifying each detected object in each frame by a unique identifier, wherein the unique identifier is based on a spatial location of the detected object in the frame;

obtaining via an interface, for each frame in each of ~~a~~the plurality of ~~different~~ the batches of frames ~~of video footage~~, a value of a confidence measure associated with ~~a~~the detected object in ~~the~~a current frame; and

detecting a scene transition in the video footage based on a difference between the ~~obtained values~~value of the confidence measure~~.~~

~~15. The system~~ of ~~claim 14, wherein~~ the ~~instructions to detect comprise instructions for:~~

analyzingcurrent frame and the obtained valuesvalue of the confidence measure to identify a trend or pattern in the values of the confidence measure over the plurality of the different frames of video footage; andof a previous frame.

identifying a scene transition in the video footage based on the identified trend or pattern in the values of confidence.

16.

13. The system of either of claims 14 or 15, claim 12 wherein the detecting comprises:

responsive to the obtained values of the confidence measure decreasing over successive frames of the video footage, determine the presence of the scene transition in the video footage.

17. 14. The system of either of claims 14 or 15claim 12, wherein the detecting comprises:

responsive to the obtained values of the confidence measure increasing over successive frames of the video footage, determine the presence of the scene transition in the video footage.

18. 15. The system of any of claims 14 to 17claim 12, wherein the detecting comprises:

comparing the obtained values of the confidence measure with a threshold value; and

identifying at least one of a start and an end of the scene transition based on the comparison result.

19. 16. The system of claim 1815, wherein identifying a start of the scene transition comprises:

determining frames of the video footage for which the obtained values of the confidence measure increase from a value not exceeding the threshold value to a value exceeding the threshold value; and

determining the start of the scene transition based on the determined frames.

20. 17. The system of any of claims 14 to 19claim 12, wherein obtaining value of a confidence measure comprises:

obtaining a first value of the confidence measure associated with the detected object in a first frame of the video footage; and

obtaining a second value of the confidence measure associated with the detected object in a second, subsequent frame of the video footage.

-18. The method of claim 1, further comprising:

detecting a new object in the frames of the sliding window, wherein the new object has an associated confidence value exceeding a threshold;

simultaneously detecting a decrease in value of the confidence measure of previously detected objects, thereby indicating a start of a dissolve scene transition; and

indicating an end of the dissolve scene transition, based on the confidence measure of previously detected objects decreasing past the threshold.