CLAIMS

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

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;

detecting a scene transition in the video footage based on a plurality of obtained values of the confidence measure, including the value of the confidence measure of the current frame and the value of the confidence measure of a previous frame, over the different frames, wherein detecting a scene transition in the video footage based on the obtained values of the confidence measure includes:

analysing the obtained values of the confidence measure to identify a trend or pattern in the obtained values of the confidence measure;

comparing the identified trend or pattern in the obtained values of confidence measure with a predetermined trend of pattern; and

identifying the scene transition in the video footage based on the comparison result; and

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

2. 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.

3. 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 increasing over successive frames of the video footage, determining the presence of a scene transition in the video footage.

4. The method of 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.

5. The method of claim 4, 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.

6. The method of claim 4, 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.

7. The method of 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.

8. The method of claim 7, wherein the first and second frames of the video footage are sequential frames of the video footage.

9. A computer program product comprising a computer readable storage medium having program instructions embodied therewith, the program instructions executable by a processing unit to cause the processing unit to perform, when run on a computer network, a method for detecting a scene transition in video footage, wherein the method comprises the steps of:

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; detecting a scene transition in the video footage based on a plurality of obtained values of the confidence measure, including the confidence measure of the current frame and the value of the confidence measure of a previous frame, over the different frames,

wherein detecting a scene transition in the video footage based on the obtained values of the confidence measure includes:

analysing the obtained values of the confidence measure to identify a trend or pattern in the obtained values of the confidence measure;

comparing the identified trend or pattern in the obtained values of confidence measure with a predetermined trend of pattern; and

identifying the scene transition in the video footage based on the comparison result; and

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

10. 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 the plurality of the batches of frames, a value of a confidence measure associated with the detected object in a current frame;

detecting a scene transition in the video footage based on a plurality of obtained values of the confidence measure, including the value of the confidence measure of the current frame and the value of the confidence measure of a previous frame, over the different frames, wherein detecting a scene transition in the video footage based on the obtained values of the confidence measure includes:

analysing the obtained values of the confidence measure to identify a trend or pattern in the obtained values of the confidence measure;

comparing the identified trend or pattern in the obtained values of confidence measure with a predetermined trend of pattern; and

identifying the scene transition in the video footage based on the comparison result; and

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

11. The system of claim 10 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.

12. The system of claim 10, 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.

13. The system of claim 10, 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.

14. The system of claim 13, 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.

15. The system of claim 10, 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.

16. 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.