

WHAT IS CLAIMED IS:

1. A smart marking system for a surgical video, comprising:

a database for storing a plurality of the surgical videos, each of the plurality of the surgical videos corresponding to a surgical name;

5 a feature generation module, connected to the database, for loading all the plurality of the surgical videos corresponding to the same surgical name to identify a type of a surgical instrument and a type, a shape and a size of an abnormal organ in each of the plurality of the surgical videos, and generate a starting eigenvalue corresponding to the surgical name according to each
10 identification result, and storing each of the starting eigenvalues and the surgical name corresponding thereto in the database, and loading each of the plurality of the surgical videos of the database for image recognition separately at the beginning, and generating at least one object information corresponding to each of the plurality of the surgical videos according to each image recognition result,
15 and using the at least one object information as feature data of the surgical video corresponding thereto, and storing the feature data in the database, wherein each of the at least one object information comprises coordinates, proportions and time points of an image object existing in the surgical video corresponding thereto;

an analysis module, connected to the database, for performing eigenvalue
20 analysis and statistics according to a video to be analyzed and all the feature data after loading the video to be analyzed to calculate a similarity rate between the video to be analyzed and each of the plurality of the surgical videos; and

a storage module, connected to the analysis module, for selecting the surgical
name corresponding to the surgical video with the highest similarity rate to mark
25 a surgical name corresponding to the video to be analyzed, and storing the video to be analyzed and the surgical name corresponding thereto in the database to make the video to be analyzed as one of the surgical videos of the database.

2. The smart marking system according to claim 1, wherein the analyzing module compares the video to be analyzed with all the starting eigenvalues in the database, and loads the surgical name corresponding to the starting eigenvalue that matches the video to be analyzed as the surgical name corresponding to the video to be analyzed, wherein when the loaded surgical name is different from the surgical name selected according to the similarity rates, a prompt message is generated, and the loaded surgical name or the selected surgical name is chosen to be the surgical name corresponding to the video to be analyzed.
3. The smart marking system according to claim 1, wherein the database further stores a plurality of organ eigenvalues and a plurality of surgical instrument eigenvalues, which are loaded when each of the plurality of the surgical videos is image-recognized, so that the feature generation module extracts an image in each of the plurality of the surgical videos that matches any of the plurality of the organ eigenvalues or any of the plurality of the surgical instrument eigenvalues as the image object of the at least one object information, and the coordinates, the proportions and the time points of the image object existing in each of the plurality of the surgical videos are recorded in the at least one object information.
4. The smart marking system according to claim 3, wherein the smart marking system further comprises a segmentation module for detecting a plurality of time points in each of the plurality of the surgical videos in which at least one of the organ eigenvalues and the surgical instrument eigenvalues is present, and deleting a plurality of frames corresponding to a time interval in each of the plurality of the surgical videos to form a plurality of divided videos and storing the plurality of divided videos in the database when the time interval between adjacent time points of the plurality of time points in which at least one of the organ eigenvalues and the surgical instrument eigenvalues is present is greater than a predetermined interval.

5. A smart marking method for a surgical video, comprising the steps:
- providing a plurality of surgical videos in a database, each of the plurality of the surgical videos corresponding to a surgical name;
- loading all the plurality of the surgical videos corresponding to the same surgical name to identify a type of a surgical instrument and a type, a shape and a size of an abnormal organ in each of the plurality of the surgical videos, and generate a starting eigenvalue corresponding to the surgical name according to each identification result, and storing each of the starting eigenvalues and the surgical name corresponding thereto in the database;
- loading each of the plurality of the surgical videos of the database separately for image recognition at the beginning, and generating at least one object information corresponding to each of the plurality of the surgical videos according to each image recognition result, and using the at least one object information as feature data of the surgical video corresponding thereto, and storing the feature data in the database, wherein each of the at least one object information comprises coordinates, proportions and time points of an image object existing in the surgical video corresponding thereto;
- performing eigenvalue analysis and statistics according to a video to be analyzed and all the feature data after loading the video to be analyzed to calculate a similarity rate between the video to be analyzed and each of the plurality of the surgical videos; and
- selecting the surgical name corresponding to the surgical video with the highest similarity rate to mark a surgical name corresponding to the video to be analyzed, and storing the video to be analyzed and the surgical name corresponding thereto in the database to make the video to be analyzed as one of the surgical videos of the database.
6. The smart marking method according to claim 5, wherein the method further

comprises the step: comparing the video to be analyzed with all the starting eigenvalues in the database, and loading the surgical name corresponding to the starting eigenvalue that matches the video to be analyzed as the surgical name corresponding to the video to be analyzed, and when the loaded surgical name being different from the surgical name selected according to the similarity rates, generating a prompt message, and the loaded surgical name or the selected surgical name being chosen to be the surgical name corresponding to the video to be analyzed.

7. The smart marking method according to claim 5, wherein the database further stores a plurality of organ eigenvalues and a plurality of surgical instrument eigenvalues, which are loaded when each of the plurality of the surgical videos is image-recognized, so that the feature generation module extracts an image in each of the plurality of the surgical videos that matches any of the plurality of the organ eigenvalues or any of the plurality of the surgical instrument eigenvalues as the image object of the at least one object information, and the coordinates, the proportions and the time points of the image object existing in each of the plurality of the surgical videos are recorded in the at least one object information.
8. The smart marking method according to claim 7, wherein the method further comprises the step: detecting a plurality of time points in each of the plurality of the surgical videos in which at least one of the organ eigenvalues and the surgical instrument eigenvalues is present, and deleting a plurality of frames corresponding to a time interval in each of the plurality of the surgical videos to form a plurality of divided videos when the time interval between adjacent time points of the plurality of time points in which at least one of the organ eigenvalues and the surgical instrument eigenvalues is present is greater than a predetermined interval, and storing the plurality of divided videos in the database.