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Internet multimedia information mining and analysis system.

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The invention provides an internet multimedia information mining and analyzing system, the user inputting to-be-visited multimedia contents or multimedia information search conditions through a multimedia IO (input output) carrier; reading the contents or obtaining multimedia contents according to the search conditions; for image/video parts in the contents, judging areas containing each object and contents thereof; extracting perception-related features in the multimedia contents; building feature relations among each object in a single image, of the same object in different frames in a video, different scenes of the video, and adjacent keywords in texts; using multimedia mining and analyzing to determine which sensitive contents are contained in the multimedia contents; feeding back the required contents to the user through the IO carrier. Object relations in images, front-back-frame image and audio variation in videos, and context of keywords in texts are synthesized, and the Internet multimedia information mining and analyzing system is suitable for mining and analyzing videos/images on the Internet and analyzing and judging contents of each offline video.

Internet multimedia information mining and analysis system

Technology Field

The invention relates to an Internet multimedia information mining and analysis system and belong to the field of information technology.

Technology Background

With the explosive growth of internet information, video/image has been playing an increasingly important role in social life with its features of direct and informative content. However, complicated contents on the Internet wherein the video/image spread all kinds of porn, bloody, violence and other sensitive content, which cause serious damage to people, especially the growth of teenagers. The ability of information extraction and master timely and accurately is a strong market demand, thus "data mining" as new idol of science and technology is born and has become a powerful tool for the field of the news media , the media entertainment, business intelligence, scientific research and so on.

At present, the content mining analysis system on the Internet is emerging. But they have been based mostly on the implementation of the text, some image-based search/mining/analysis system works according to the bottom texture, color and other information of the image, without analyzing or works according to the high-level semantics of the image, namely object in the image, not to mention mining and classifying according to the sensitive content contained in the video/image. In addition, the current Internet mining analysis system is either for the text, or else for the single mode of the image.

Therefore, it is necessary to establish a set of efficient multimedia information mining and analysis system.

Contents of the invention

To solve the above problems, the present invention puts forward a system which is based on the high-level semantic analysis and high-level emotional video/image analysis priority to, combined with voice and text parsing technology related to the Internet video/image content. The system judges whether a video/image contain contents of pornography, violence, terror, sensitive, and users customization and filter or process accordingly.

The purpose of this invention is achieved through the following technical scheme:

- (1) The user input the multimedia content or multimedia information search condition that he needs to access through the multimedia IO carrier.
- (2) Read the multimedia content input by user or obtain multimedia content from the Internet according to the multimedia search condition.

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- (3) For the image/video part of the multimedia content obtained, judge the region of each object and its contents by the following steps.
- ① Image segmentation to obtain multiple local region;
 - ② The corresponding color, texture extraction from each region;
 - ③ Analysis to the meaning of objects in each region;
 - ④ Combination of neighbor regions with the same object meaning to obtain different regions and objects in each region;
 - ⑤ Combination and analysis of neighbor regions and objects to deduce the high-level semantic interpretation of objects, and the computer interpretation of event/behavior, sensitive content identification.
- (4) According to the visual perception theory, extract the features of the multimedia content related to perception.
- (5) Build feature relationships of each object in the single image; establish the feature relationships of the same object between different frames in video; establish feature relationships of the different scene in video; establish feature relationships of the adjacent keyword in the text .
- (6) By supporting the cloud processing mechanism of big data, using the multimedia mining analysis process to determine the sensitive of the above multimedia content, such as pornographic, violence, horror and so on; one or more sensitive content may be contained in a set of multimedia content.
- (7) Feedback the multimedia content as the client needs through Intelligent multimedia IO carrier.

The described intelligent multimedia IO carrier refers to a computer, mobile phone, mobile terminal and smart watch.

The described multimedia content refers to one or more of video, image, audio, text.

The present invention is based on the basic principle of perceptive from video/image/audio to extraction the characteristics associated with sensitive content; At the same time, the system can according to customer's custom sensitive information to the analysis of the contents and retrieval, will implement the video/image of high-level semantic analysis and sensitive content recognition, text, voice and visual information fusion complete semantic analysis and sensitive content recognition. Internet multimedia information mining analysis system is no longer on a single media (modal) analysis, but the relationship between objects in the image, in the video frames before and after the change of the image and audio, and text in the keywords context are taken into account, establishing a multimedia data comprehensive analysis system. The present invention not only

applies to the mining/analysis of video/image on the Internet, but also applies to the analysis and judgment of the contents of video, and the system analysis and recognition accuracy can be up to 90%.

Description of figures

Specific embodiments

The following adoptions of example is to specify the Internet multimedia information mining and analysis system of the invention.

Example 1

The Internet multimedia information mining and analysis system is achieved through the following technical scheme:

- (1) The user input the multimedia content or multimedia information search condition that he needs to access through the multimedia IO carrier.
- (2) Read the multimedia content input by user or obtain multimedia content from the Internet according to the multimedia search condition.
- (3) For the image/video part of the multimedia content obtained, judge the region of each object and its contents by the following steps.
 - ① Image segmentation to obtain multiple local region;
 - ② The corresponding color, texture extraction from each region;
 - ③ Analysis to the meaning of objects in each region;
 - ④ Combination of neighbor regions with the same object meaning to obtain different regions and objects in each region;
 - ⑤ Combination and analysis of neighbor regions and objects to deduce the high-level semantic interpretation of objects, and the computer interpretation of event/behavior, sensitive content identification.
- (4) According to the visual perception theory, extract the features of the multimedia content related to perception.
- (5) Build feature relationships of each object in the single image; establish the feature relationships of the same object between different frames in video; establish feature relationships of the different scene in video; establish feature relationships of the adjacent keyword in the text .
- (6) By supporting the cloud processing mechanism of big data, using the multimedia mining analysis process to determine the sensitive of the above multimedia content, such as pornographic, violence, horror and so on; one or more sensitive content may be contained in a set of multimedia content.

(7) Feedback the multimedia content as the client needs through Intelligent multimedia IO carrier.

The described intelligent multimedia IO carrier refers to a computer.

The described multimedia content refers to a video.

1. The Internet multimedia information mining and analysis system, characterized in that it is realized through the following technical scheme:
 - (1) The user input the multimedia content or multimedia information search condition that he needs to access through the multimedia IO carrier.
 - (2) Read the multimedia content input by user or obtain multimedia content from the Internet according to the multimedia search condition.
 - (3) According to the visual perception theory, extract the features of the multimedia content related to perception.
 - (4) Feedback the multimedia content as the client needs through Intelligent multimedia IO carrier.

The invention provides an internet multimedia information mining and analyzing system. the user inputting to-be-visited multimedia contents or multimedia information search conditions through a multimedia IO (input output) carrier; reading the contents or obtaining multimedia contents according to the search conditions; for image/video parts in the contents, judging areas containing each object and contents thereof; extracting perception-related features in the multimedia contents; building feature relations among each object in a single image, of the same object in different frames in a video, different scenes of the video, and adjacent keywords in texts; using multimedia mining and analyzing to determine which sensitive contents are contained in the multimedia contents; feeding back the required contents to the user through the IO carrier. Object relations in images, front-back-frame image and audio variation in videos, and context of keywords in texts are synthesized, and the Internet multimedia information mining and analyzing system is suitable for mining and analyzing videos/images on the Internet and analyzing and judging contents of each offline video.