Chapter 11
Healthcare Multimedia Data Analysis Algorithms Tools and Applications

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ABSTRACT

In the domain of information retrieval, there exists a number of models which are used for different sorts of applications. The extraction of multimedia is one of the types which specifically deals with the handling of multimedia data with different types of tools and techniques. This chapter provides a complete insight into the audio, video, and text semantic descriptions about the multimedia data with the following objectives: i) methods ii) data summarization iii) data categorization and its media descriptions. Upon considering this organization, the entire chapter has been dealt with a case study depicting feature extraction, merging, filtering, and data validation.

INTRODUCTION

The domain of information retrieval is considered to be as an important paradigm in the different sorts of real-time applications. The advancement in the process of data retrieval techniques has been established more than five thousand years ago. In practice, the intent of the data retrieval to that of information retrieval

has been raised with the accordance of model development, process analysis, and data interpretation and evaluation. One of the major forms of data which has multiple supportable formats is multimedia data. This data utilizes different sorts of information retrieval models to establish a particular decision support system. At certain context the aspect of feature based analysis plays a significant role in data prediction and validation. The only advent is it must adapt to that of the particular database community and the modular applications in which it deals with the formats.

The process of research practice and its supporting culture has become blooming with the process of handling different types of data. The supporting types are having different issues with the data processing platforms which are suited for analysis. Also, the utilization of data driven models is getting increased day by day with its available metrics. Metric based data validation and extraction is found to be one of the tedious task in this which then certainly make the data to be variant suitably for analysis. The algorithmic models may vary certainly but the aspect that has to be considered should be quite easy. In the present stages of study the designers choose their own way of representing and handling the data to a certain extent, especially:

- Design of decision support systems to provide a complete service
- To utilize the system effectively in order to communicate with the professionals this states the expectations behind the system.
- To enhance the researchers to effectively utilize the model in terms of data integration, analysis and spotting of relevant multimedia data.

The extraction of multimedia data sources are analyzed with efficient forms of data analysis and linguistic process. These methods can be efficiently organized into three such groups:

1. Methods suitably used for the process of summarizing the media data which is specifically the result of feature extraction process.
2. Methods and techniques for filtering out the media content and its sub processes.
3. Methods that are suitable for categorizing the media into different sorts of classes and functions.

Techniques for Summarizing Media Data

Feature extraction is motivated by innumerably large multimedia object, their redundancy and possibly nosiness. By feature extraction two goals can be achieved.

- Data summary generation
- Data correlation analysis with specific autocorrelation and comparison

Techniques for Filtering Out Media Data

The process of MIR emphasise the channels that are locally visible and executable for the different forms of IR models that are suitably supported. The results are merged into one description per media content. Descriptions are classified into two based on their size. They are of two types,

- Fixed-size

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