

Intelligent Video Tag Recommendation System Improving Video Popularity

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Abstract: *A successful marketing activity requires attracting high social popularity to their contents, since higher popularity usually indicates stronger influence, more fame and higher revenue. In this, we focus on the question of how to improve popularity of videos sharing on websites like YouTube in mobile computing environment. Obviously, composing high quality titles and tags is beneficial for viewers to discover videos of their interests and increase their tendency to watch more videos. However, it is not an easy task for uploaders, which is especially true since the screen is tight for most mobile devices. To this end, this proposes a novel hybrid method based on multi-modal content analysis that recommends keywords for video uploaders to compose titles and tags of their videos and then to gain higher popularity. The method generates candidate keywords by integrating techniques of textual semantic analysis of original tags and recognition of video content. On one hand, taking the original keywords of a video as input, the method obtains most relevant words from WordNet and related video titles gathered from the three top video sharing sites (YouTube, Yahoo Video, Bing Video). On the other hand, through recognizing video content with deep learning technology, the method extracts the entity name of video content as candidate keywords. Finally, a TFSIM algorithm is proposed to rank the candidate keywords and the most relevant keywords are recommended to uploaders for optimizing the titles and tags of their videos.*

Keywords: WorNet Processing, Object Detection, Machine Learning, YouTube Processing, TFSIM Algorithm.

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