

A Social Image Collection Summarization Method Based on Content and Attractiveness of Images

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ABSTRACT

Automatic image summarization becomes very important in using large volume image collections available these days. They attempt to select a small set of the most representative images to highlight larger amounts of images. Recent studies have shown that summary images should cover different information aspect of the whole collection; and they should meet other factors like image quality or aesthetic features. In this paper, we propose an automatic approach for social image collection summarization that applies two different sets of features named attractiveness and content features. In the proposed approach, the introduced features are extracted using social media platform and domain ontology and their effectiveness in image collection summarization is modeled through a used feedback process. The final summary images are then selected by combing summaries coming from the two sets of features. The proposed approach was evaluated on a set of human generated summaries of a collection of Flickr images. The results show that the proposed method reaches a 35% improvement of information coverage in summarizing image collection to 1% of its original volume and 4% improvement in summarizing image collection to 5% of its original volume. It reaches a 39% improvement in making summary images that are like human made summaries as well.

Keywords: Image Collection Summarization, Social Images, User Feedback.