

# A Survey on Classification of Photo Aesthetics Based on Emotion

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**Abstract**— Recognition of human facial expression and calculating exact emotion by computer vision is an interesting and challenging problem. Emotion in natural scenery images plays vital role in the way humans perceive an image. Based on the various emotions like happiness, sadness, fear, anger of any human being the images that are examined by that person can propose that if the person is in happy mood then he/she would C the same images in different ways but still can be possible to build a universal classification for various emotions.

The paper proposes the various techniques of recognizing emotion on the basis of how humans perceive an image, also aims to classify the aesthetics of the photographic images and determine wallpaper (Scene or non-scene images) according to human emotions.

**Keywords**- scenery images, aesthetics, non-scene images, computer vision

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## I. INTRODUCTION

Emotion in natural scene images plays an important role in the way humans perceive an image. Based on the emotion (happiness, sadness, fear, anger etc.) of any human being the images that are viewed by that person can have a significant impact in a sense that if the person is for example in happy mood and views an image that is pleasing then would have a better sense of attachment towards that image and would not accept an image that depicts sadness as an emotion. Although different people may interpret the same image in different ways, we still can build a universal classification for different emotions. A substantial allowance of study has established that the visual scheme is highly efficient at seeing both faces and facial expression Specifically, the trials here use a set of six basic emotion happiness, sadness, anger, surprise, fear and disgust. These are the six emotions. Two datasets are utilized in the experiments, extracted from reside periodical. After, the instance space is reduced by applying feature assortment techniques Emotion detection poses interesting questions from a research point of view; for instance: how to model the text for the detection task, what features offer the best prediction/detection power, and to what extent it is even possible to accurately distinguish subjective labels such as emotions from a given source text. To predict emotion, we carry out a fairly traditional machine learning method with the addition of feature selection techniques. Specifically, the experiments here use a set of six basic emotions: happiness, sadness, anger, surprise, fear and disgust. The increase of computer storage capacity and Internet resources can be observed. Fast development of new image and video technologies and easy access to sophisticated forms of information demand constantly improving searching and processing tools. Existing methods of text documents retrieval give satisfying results, so now research is focused on images

retrieval. Finding the right set of images in a base containing thousands of them is still a challenging task. Few working methods were created and developed to solve the issue. The first category of approaches is based on textual annotations. It assumes that every image in the database has a label describing its content. Systems, which use only annotations, are nothing more than text-based searchers. Another way of dealing with the same problem is based on observation that textual labels are not always available. Content based image retrieval (CBIR) systems assume that many features useful during searching process can be extracted from the image itself. In the approach looking for similar images may be reduced to measuring a visual distance between them. Many of the systems use color .The main difference between both approaches is the type of similarity they can find. Textual searchers are capable to find semantic similarity, also named similarity of ideas (for example tiger in summer and tiger in winter) and content based searchers return visually similar images, even if they present different ideas. CBIR systems look for similar images, but criteria of similarity are not explicitly defined. They can take into account image coloring, objects included in it, its category (for instance outside or inside) or its emotion (also called mood or feeling).

The last one, depending on interpretation, can be seen as emotional content of a picture itself or an impression it makes on a human. In the paper we consider both definitions as equivalent. These systems are called EBIR (Emotion Based Image Retrieval) and they are a subcategory of CBIR ones.

## II. LITERATURE SURVEY

[1]

This paper demonstrates a simple, yet powerful method to automatically select high aesthetic quality images from large

image collections. Our aesthetic quality estimation method explicitly predicts some of the possible image cues that a human might use to evaluate an image and then uses them in a discriminative approach. These cues or high level describable image attributes fall into three broad types: 1) compositional attributes related to image layout or configuration, 2) content attributes related to the objects or scene types depicted, and 3) sky-illumination attributes related to the natural lighting conditions. We demonstrate that an aesthetics classifier trained on these describable attributes can provide a significant improvement over baseline methods for predicting human quality judgments. We also demonstrate our method for predicting the “interestingness” of Flickr photos, and introduce a novel problem of estimating query specific “interestingness”.

[2]

In this paper, author discussed a framework for the classification of emotional states, based on still images of the face and the implementation details of a real-time facial feature extraction and emotion recognition application are discussed. The application automatically detects frontal faces from the captured image and codes them with respect to 7 dimensions in real time: neutral, anger, disgust, fear, joy, sadness, surprise. Most interestingly the outputs of the classifier change smoothly as a function of time, providing a possibly worth representation of code facial expression dynamics in a fully automatic and unnoticeable manner. The main objective of the paper is the real-time implementation of a facial emotion recognition system. The system has been deployed on a Microsoft's Windows desktop.

[3]

In this paper author presented Most current emotional tagging research typically tags the multimedia data with a single emotion, ignoring the phenomenon of multi-emotion coexistence. To address this problem, we propose a novel multi-emotion tagging approach by explicitly modeling the dependencies among emotions. First, several audio or visual features are extracted from the multimedia data. Second, four traditional multi-label learning methods: Binary Relevance, Random k label sets, Binary Relevance k Nearest Neighbours and Multi- Label k Nearest Neighbours, are used as the classifiers to obtain the measurements

of emotional tags. Then, a Bayesian network is automatically constructed to capture the relationships among emotional tags. Finally, the Bayesian network is used to infer the data's multi-emotion tags by combining the measurements obtained from those traditional methods with the dependencies among emotions. Experiments on two multi-label media data sets

demonstrate the superiority of our approach to the existing methods.

[4]

In this paper author presented the emotion (happiness, sadness, fear, anger etc.) of any human being the images that are viewed by that person can have a significant impact in a sense that if the person is for example in happy mood and he/she views an image that is pleasing then he/she would have a better sense of attachment towards that image and would not accept an image that depicts sadness as an emotion.

Although different people may interpret the same image in different ways, we still can build a universal classification for different emotions.

[5]

In this paper presents our approach to content based image retrieval systems which takes into account its emotional content. The goal of the research presented in this paper is to examine possibilities of use of an artificial neural network for labeling images with emotional keywords based on visual features only and examine an influence of used emotion filter on process of similar images retrieval. The performed experiments have shown that use of the emotion filter increases performance of the system for around 10 percent. points

### III. CONCLUSION

In this paper we have proposed a system that automatically detects human emotions on the basis of facial expressions. This paper and the techniques followed are more suited as this paper already uses the best of other approaches for face recognition, thus limiting the latency in response. Moreover, it further takes a step to improvise the emotion detection technique using Cubic Bezier Curve Implementation which is more adaptive and resurface as the ones with utmost importance in various other fields like that of robotics, computer graphics, automation and animation. The system works well for faces with different shapes, complexions as well as skin tones and senses basic six emotional expressions. It will determine wallpaper (scene or non-scene images) according to human emotions.

### ACKNOWLEDGMENT

I wish to express my sincere thanks to the guide Prof. M.V.Phatak and Head of Department, Prof. V.Y.Kulkarni as well as our principal DR.L.K Kshirsagar, also Grateful thanks to our PG Coordinator M.V.Bedekar and last but not least, the departmental staff members for their support.

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