Technical Disclosure Commons

Defensive Publications Series

November 2019

Automatic selection of preferred images

Lachlan “Locke” Dunn

Daniel Citron

Automatic selection of preferred images

ABSTRACT

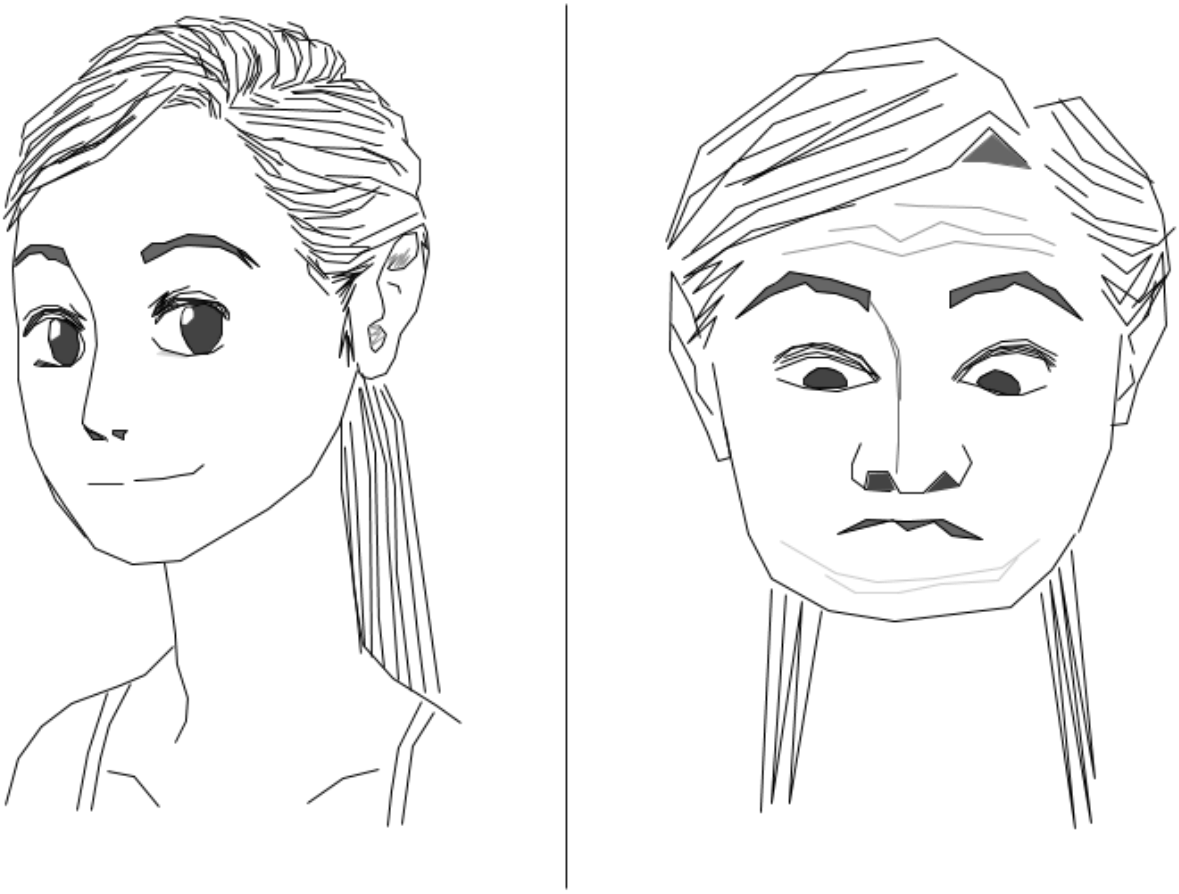
Image-hosting services and camera apps can select images for highlighting or as the best shot from a burst of shots based on criteria such as lighting conditions, blur (or lack thereof), whether people in the image are smiling, whether their eyes are open, etc. However, the selection of images is not based on user preferences, e.g., that indicate whether a user likes or dislikes an image. This disclosure describes techniques that enable a user to specify examples of favorite images. With user permission, examples provided by the user are used to surface similar images, e.g., images that match the user's preferences.

KEYWORDS

- Selfie
- Image selection
- Image similarity
- Favorable images
- Best photo

BACKGROUND

Image-hosting services and camera apps can select images for highlighting or as the best shot from a burst of shots based on criteria such as lighting conditions, blur (or lack thereof), whether people in the image are smiling, whether their eyes are open, etc. However, the selection of images is not based on user preferences, e.g., that indicate whether a user likes or dislikes an image. For example, many users have preferences regarding their own images, e.g., a preferred angle of capture, side of face depicted, etc. Such preferences are currently not taken into account when selecting images.



(a) (b)

Fig. 1: An image of an individual taken from (a) a good angle (b) a bad angle

A lot of individuals have a preference for a 'good angle,' e.g., an optimal image of themselves based on the angle of the camera, how big their smile is, how open their eyes are, etc. For example, in Fig. 1(a), the photo is taken from an angle such that the subject's best features are brought out nicely. In Fig. 1(b), the photo is taken from a camera that is below chin level, with the unintentional effect of distending the subject's face and introducing unflattering features such as wrinkles, asymmetry, a large nose, and a double chin. Current image selection techniques do not enable users to specify or give examples of what they consider to be an ideal appearance of themselves.

DESCRIPTION

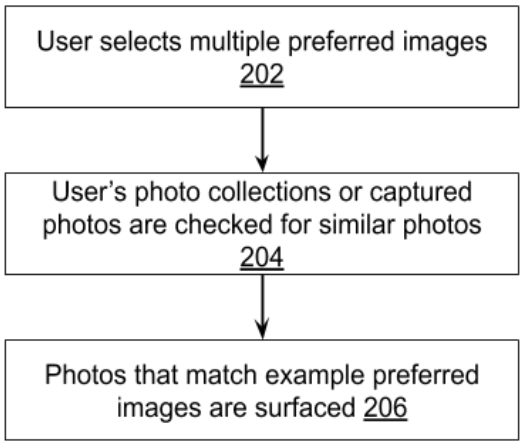


Fig. 2: Workflow to determine images favorable to a user

As illustrated in Fig. 1, this disclosure describes techniques that enable a user to select favorite images (e.g., of themselves) from their collections (202). With user permission, such images are used as examples to search for similar images within the user's collection or photos captured via a camera (204). The matching between the example images provided by the user and images in the user's collection can be performed by a trained machine learning model. The matching procedure can use a variety of attributes of preferred user appearance as found in the example images, e.g., size of smile, exposure conditions, angle of head, etc.

With user permission, images that match the example images are surfaced (206), e.g., as album covers for the user's photo albums; to post to social media; as the best shot from a burst of images captured by a camera; when generating image-based creations such as collages, videos, photo books, etc.; for display via digital photo frames or smart appliances; etc. The described techniques can be used to select images that depict the user herself, or other users whose pictures are in the user's image collection.

Further to the descriptions above, a user may be provided with controls allowing the user to make an election as to both if and when systems, programs or features described herein may enable collection of user information (e.g., information about a user's social network, social actions or activities, profession, a user's preferences, or a user's current location), and if the user is sent content or communications from a server. In addition, certain data may be treated in one or more ways before it is stored or used, so that personally identifiable information is removed. For example, a user's identity may be treated so that no personally identifiable information can be determined for the user, or a user's geographic location may be generalized where location information is obtained (such as to a city, ZIP code, or state level), so that a particular location of a user cannot be determined. Thus, the user may have control over what information is collected about the user, how that information is used, and what information is provided to the user.

CONCLUSION

This disclosure describes techniques that enable a user to specify examples of favorite images. With user permission, examples provided by the user are used to surface similar images, e.g., images that match the user's preferences.