Definition of Facial Hair Annotations
Haiyu Wu, Grace Bezold, Kevin W. Bowyer
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Traditional annotations related to facial hair include mustache, sideburns, goatee, five o'clock shadow, beard (listed as "no_beard" in, for example, CelebA) and bald. The traditional annotations are generally assumed to be intuitive and detailed definitions are not given. The purpose of this document is to give detailed definitions for a refined set of attributes related to facial hair. The five proposed attributes and the allowed values of each are listed below.

beard_area: clean_shaven   chin_area_hair   side_to_side_hair   info_not_vis
(four options, click one and only one)

beard_length: 5_o'clock_shadow   short   medium   long   info_not_vis
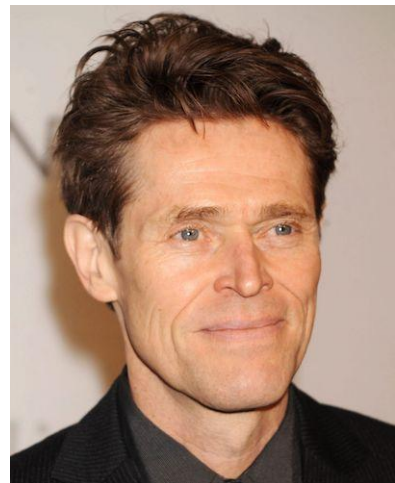(five options, click one and only one)

mustache: none   isolated   connected_to_beard   info_not_vis
(four options, click one and only one)

sideburns: none   sideburns_present connected_to_beard occluded
(four options, click one and only one)

bald: false   top_only   sides_only   top_and_sides   info_not_vis
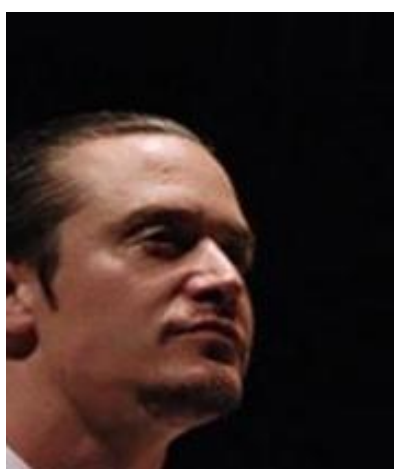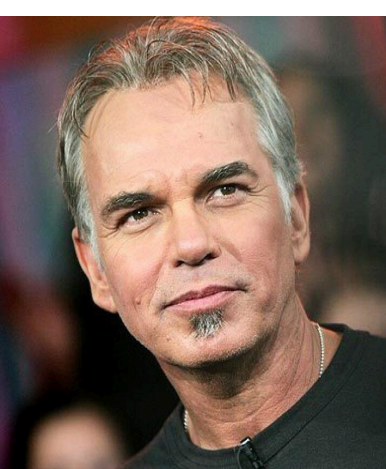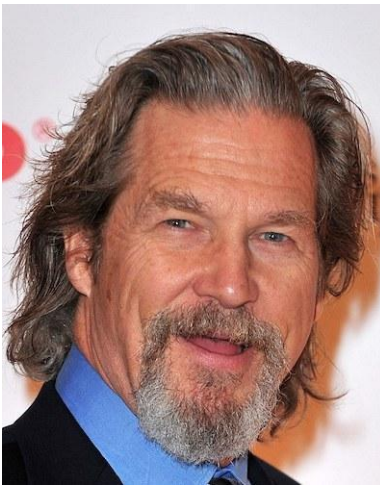(five options, click one and only one)

1. beard_area.

clean_shaven means there is no visible hair (other than hair continued from a mustache) below the mouth line. The mouth line is a line across the face passing through the mouth corner points.

*

* Here there is some hair below the mouth line but it is continued from the mustache and so it still would be marked as clean shaven.

chin_area_hair means there is hair below the mouth line that occludes the appearance of the skin in some amount of the chin region but the hair region does not extend out along the sides of the face.

side_to_side_hair means there is hair below the mouth line that occludes the appearance of the skin in the chin region and also extends along the sides of the face.

info_not_vis means that the information needed to make a reliable annotation is not visible in the image, due to occlusion, pose, image quality or other factors.
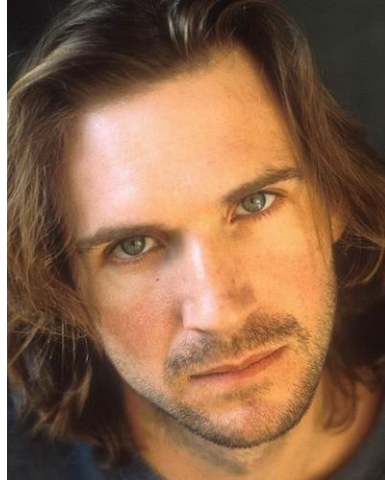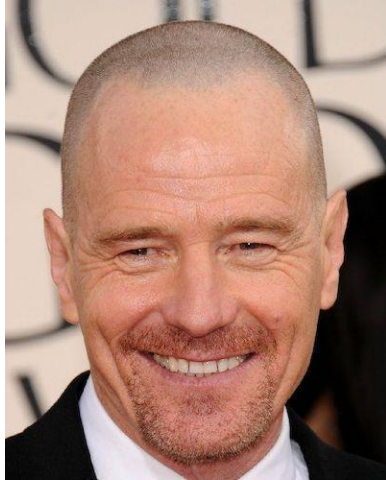
2. beard_length.

With this attribute, we acknowledge that this is a continuous variable rather than discrete, and because of that there may be some images for which it is ambiguous what category they belong in. For instance, we have found the distinction between 5 o'clock shadow and short can be hard to make. For example, the image below. Where there is hair it is fairly dense (fitting the short description) but the skin underneath is still fairly visible (fitting the 5 o'clock shadow description).

Even though there may be some ambiguity in what category an image belongs to, it should not vary more than ± 1 category; i.e., it may be ambiguous if a beard is short or medium, but it will never be ambiguous whether a beard is 5 o'clock shadow or medium.
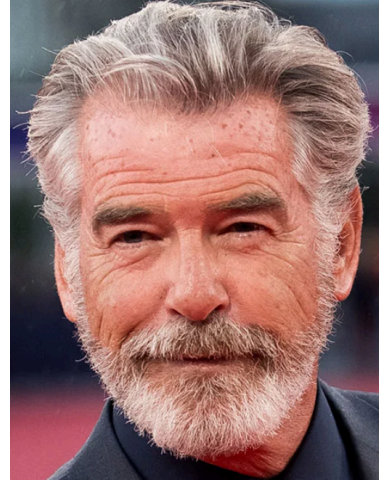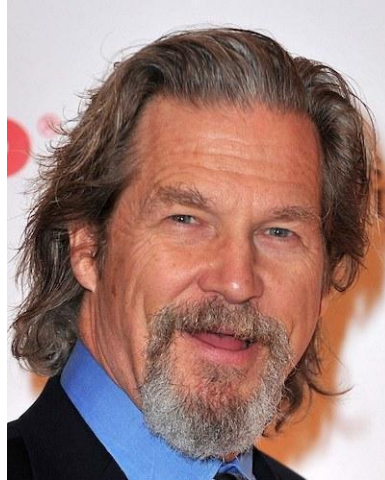
5_o'clock_shadow means that the length of the hair is enough that it is visible and you would not call it clean_shaven, but still so short that much of the skin shows through.
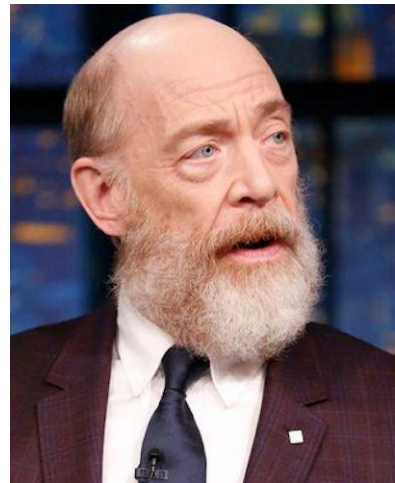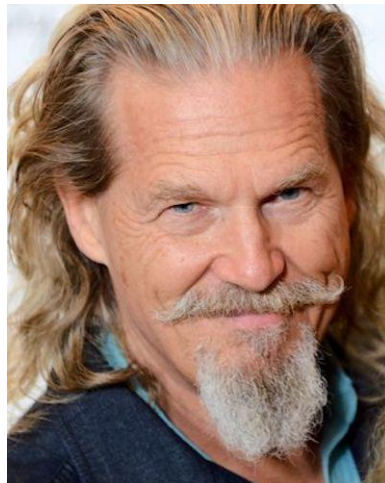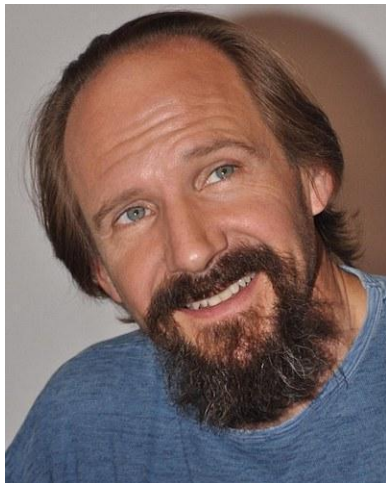
short means that the length of the hair is generally less than one inch and it is denser and obscures more skin than the 5 o'clock shadow.

medium means that the hair is longer than "short" but generally less than 2 inches. The hair is not trimmed tight to the face but still follows the general shape of the jaw.

long means that the hair is longer than "medium" and generally obscures some of the shape of the jaw.
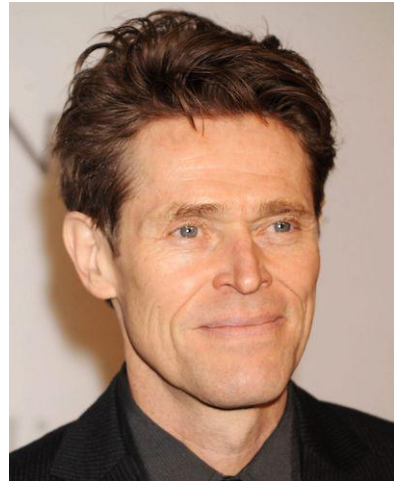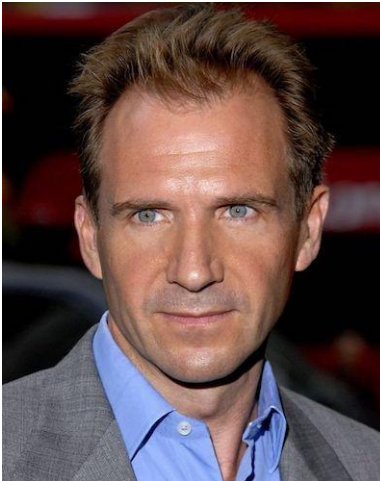
info_not_vis means that the information needed to make a reliable annotation is not visible in the image, due to occlusion, pose, image quality or other factors.
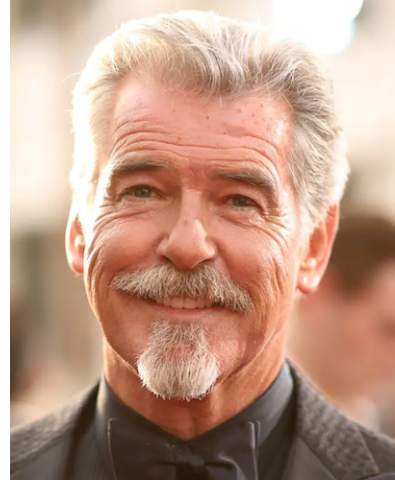

3. mustache.

none means no visible hair above the mouth line.

isolated means hair above the mouth line that is not connected to the beard.

connected_to_beard means a continuous region of hair including a mustache and a beard; in effect, encircling the mouth. This includes if the mustache connects with shorter beard hair, i.e. a 5 o'clock shadow.
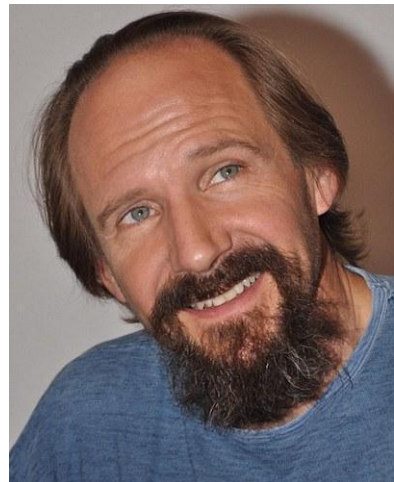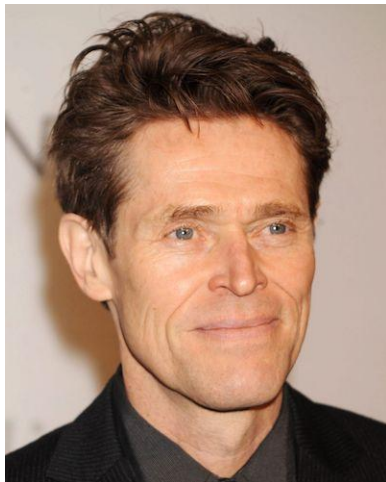

info_not_vis means that the information needed to make a reliable annotation is not visible in the image, due to occlusion, pose, image quality or other factors.

4. sideburns.

none means that hair alongside the ear does not extend downward farther than the middle of the ear.

sideburns_present means that hair alongside the ear extends past the middle of the ear. This includes if the person is bald but still has hair covering the side of the face along the ear.

connected_to_beard means that the sideburns are present and the bottom of the sideburn blends with side to side facial hair. This includes when the sideburn touches shorter hair, like 5 o'clock shadow length facial hair.
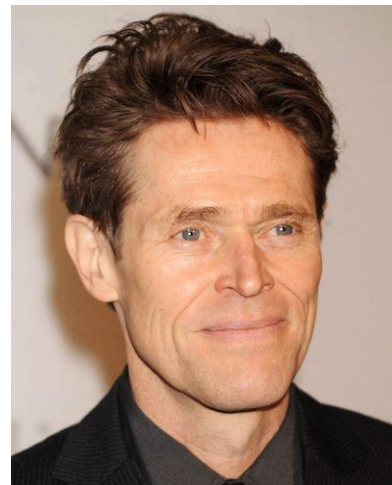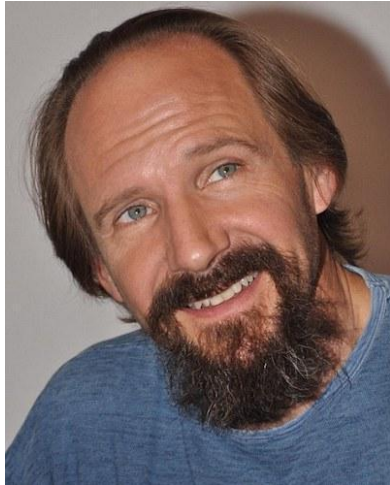
info_not_vis means that the information needed to make a reliable annotation is not visible in the image, due to occlusion, pose, image quality or other factors. For this attribute, info_not_vis is most commonly marked when the subject of the image is fully facing front so there is not a clear visual of the sides of the head, or there is hair covering the sideburn area.

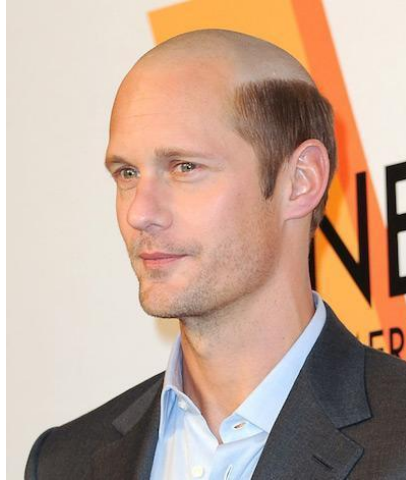## 5. bald.

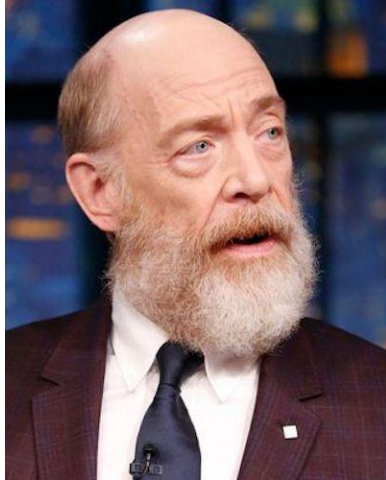**false** means the person is not bald.

* This is an edge case for the definition; even though this person has very short hair, there is hair visible over the top and side of the head, and so it is marked as false for beard.

* Even though there is a hat obscuring some of the head, because of the obvious hair outside of the hat this image would be marked false for the bald attribute.
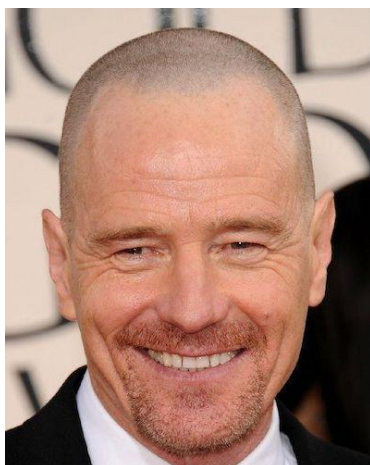
top_only means no hair visible on top of head but hair visible on sides.

sides_only means bald on the sides and hair on the top.

top_and_sides means no hair visible on top or sides of head.

info_not_vis means that the information needed to make a reliable annotation is not visible in the image, due to occlusion, pose, image quality or other factors.