SUMMARY

[0005] According to a first aspect of the present disclosure, there is provided a method for identifying a target face depicted in a target face image from a plurality of face images, each of the plurality of face images depicting a face, comprising: identifying a plurality of matching face images from the plurality of face images based on the target face using a plurality of models running independently of and in parallel with one another, each of the plurality of models being configured to compare the target face with each face depicted in the plurality of face images, each of the plurality of matching face images being identified by the plurality of models as depicting a face that matches with the target face; and determining, by an ensemble model, which of the plurality of matching face images from the plurality of models depict a face that is an exact match with the target face, the ensemble model being configured to compare each of the plurality of matching face images with one another for the determination, wherein the ensemble model determines that a face depicted in a matching face image is an exact match with the target face if the matching face image is one that is identified by all of the plurality of models.

[0006] According to a second aspect of the present disclosure, there is provided a system for identifying a target face depicted in a target face image from a plurality of face images, each of the plurality of face images depicting a face, the system comprising: at least one processor; and at least one memory including computer program code; the at least one memory and the computer program code configured to, with the at least one processor, cause the system at least to: identify a plurality of matching face images from the plurality of face images based on the target face using a plurality of models running independently of and in parallel with one another, each of the plurality of models being configured to compare the target face with each face depicted in the plurality of face images, each of the plurality of matching face images being identified by the plurality of models as depicting a face that matches with the target face; and determine, by an ensemble model, which of the plurality of matching face images from the plurality of models depict a face that is an exact match with the target face, the ensemble model being configured to compare each of the plurality of matching face images with one another for the determination, wherein the ensemble model determines that a face depicted in a matching face image is an exact match with the target face if the matching face image is one that is identified by all of the plurality of models.

CLAIMS

What is claimed is:

1. A method for identifying a target face depicted in a target face image from a plurality of face images, each of the plurality of face images depicting a face, comprising:

identifying a plurality of matching face images from the plurality of face images based on the target face using a plurality of models running independently of and in parallel with one another, each of the plurality of models being configured to compare the target face with each face depicted in the plurality of face images, each of the plurality of matching face images being identified by the plurality of models as depicting a face that matches with the target face; and

determining, by an ensemble model, which of the plurality of matching face images from the plurality of models depict a face that is an exact match with the target face, the ensemble model being configured to compare each of the plurality of matching face images with one another for the determination, wherein the ensemble model determines that a face depicted in a matching face image is an exact match with the target face if the matching face image is one that is identified by all of the plurality of models.

2. The method of claim 1, further comprising determining which of the plurality of face images depict a face that is similar to the target face using a plurality of lookup models running independently of and in parallel with one another, each of the plurality of lookup models being configured to compare the target face with each of the plurality of face images, wherein identifying the plurality of matching face images is based on comparing the target face with each face depicted in the determined face images.

3. The method of claim 2, wherein each of the plurality of lookup models comprise a different face vectorization algorithm for vectorizing the target face, wherein determining which of the plurality of face images depict a face that is similar to the target face further comprises vectorizing the target face and comparing the vectorized target face with each face of the plurality of face images by each of the plurality of lookup models, wherein each face depicted in the plurality of face images is vectorised.

4. The method of claim 1, wherein each of the plurality of models comprise a different face matching algorithm, wherein identifying matching face images from the plurality of face images further comprises comparing, by each of the different face matching algorithm, the target face with each face depicted in the plurality of face images.

~~5. The method of claim 1, wherein the ensemble model determines that a face depicted in a matching face image is an exact match with the target face if the matching face image is one that is identified by all of the plurality of models.~~

~~6.~~5. The method of claim 1, further comprising:

assigning weights to each of the plurality of models, wherein the determination is based on the assigned weights.

~~7.~~6. The method of claim 1, further comprising:

generating, by the ensemble model, an output face image, the output face image being one of the plurality of matching face images that is determined by the ensemble model as depicting a face that is an exact match with the target face.

~~8.~~7. The method of claim ~~7~~6, further comprising:

generating training data based on a comparison of each face depicted in the identified matching face images with the face depicted in the output face image; and

assigning weights to each of the plurality of models based on the training data, wherein the determination is based on the assigned weights.

~~9.~~8. The method of claim ~~8~~7, further comprising:

retraining the ensemble model based on the training data by reinforcement learning; and

optimizing the assignment of weights based on the retraining.

~~10.~~9. A system for identifying a target face depicted in a target face image from a plurality of face images, each of the plurality of face images depicting a face, the system comprising:

at least one processor; and

at least one memory including computer program code;

the at least one memory and the computer program code configured to, with the at least one processor, cause the system at least to:

identify a plurality of matching face images from the plurality of face images based on the target face using a plurality of models running independently of and in parallel with one another, each of the plurality of models being configured to compare the target face with each face depicted in the plurality of face images, each of the plurality of matching face images being identified by the plurality of models as depicting a face that matches with the target face; and

determine, by an ensemble model, which of the plurality of matching face images from the plurality of models depict a face that is an exact match with the target face, the ensemble model being configured to compare each of the plurality of matching face images with one another for the determination, wherein the ensemble model determines that a face depicted in a matching face image is an exact match with the target face if the matching face image is one that is identified by all of the plurality of models.

~~11.~~10. The system of claim ~~10~~9, further configured to determine which of the plurality of face images depict a face that is similar to the target face using a plurality of lookup models running independently of and in parallel with one another, each of the plurality of lookup models being configured to compare the target face with each of the plurality of face images, wherein identifying the plurality of matching face images is based on comparing the target face with each face depicted in the determined face images.

~~12.~~11. The system to claim ~~11~~10, wherein each of the plurality of lookup models comprise a different face vectorization algorithm for vectorizing the target face, wherein determining which of the plurality of face images depict a face that is similar to the target face further comprises vectorizing the target face and comparing the vectorized target face with each face depicted in the plurality of face images by each of the plurality of lookup models, wherein each face depicted in the plurality of face images is vectorised.

~~13.~~12. The system of claim ~~10~~9, wherein each of the plurality of models comprises a different face matching algorithm, wherein identifying the plurality of

matching face images from the plurality of face images further comprises comparing, by each of the different face matching algorithms, the target face with each face depicted in the plurality of face images.

~~14. The system of claim 10, wherein the ensemble model determines that a face depicted in a matching face image is an exact match with the target face if the matching face image is one that is identified by all of the plurality of models.~~

~~15.~~13. The system of claim ~~10~~9, further configured to assign weights to each of the plurality of models, wherein the determination is based on the assigned weights.

~~16.~~14. The system of claim ~~10~~9, further configured to:

generate, by the ensemble model, an output face image, the output face image being one of the plurality of matching face images that is determined by the ensemble model as depicting a face that is an exact match with the target face.

~~17.~~15. The system of claim ~~16~~14, further configured to:

generate training data based on a comparison of each face depicted in the identified matching face images with the face depicted in the output face image; and

assign weights to each of the plurality of models based on the training data, wherein the determination is based on the assigned weights.

~~18.~~16. The system of claim ~~17~~15, further configured to:

retrain the ensemble model based on the training data by reinforcement learning; and

optimize the assignment of weights based on the retraining.