CLAIMS

1. A computer-implemented method of augmenting a dataset used in facial expression analysis, the method comprising the steps of:

adding to a dataset a first facial image and a second facial image;

mapping the first and second facial images to a first expression point and second expression point respectively in a continuous dimensional emotion space;

determining a position of a third expression point in the continuous dimensional emotion space, the third expression point being a position between the first and second expression point;

generating an expression variation image;

assigning a first dimensional label to the expression variation image;

adding the expression variation image to the dataset;

wherein the expression variation image and first dimensional label are derived from the position of the third expression point, based on its position relative to the first and second facial image;

generating an intensity variation image based on a neutral facial image and the expression variation image;

assigning a second dimensional label to the intensity variation image; and

adding the intensity variation image to the dataset,

wherein the expression variation image is obtained by applying a first morph function to interpolate the first facial image and the second facial image, and the intensity variation image is obtained by applying a second morph function to interpolate the neutral facial image and the expression variation image.

2. The method according to claim 1, wherein the third expression point is determined by applying an expression distance to the first expression point or second expression point.

3. The method according to claim 2, wherein the expression distance is preselected.

4. The method according to claim 1, wherein the first and second facial images are each assigned a label from one of the following expressions: happy, surprised, afraid, angry, disgusted, or sad, and are mapped to positions that correspond to the labels in the continuous dimensional emotion space.

5. The method according to claim 1, wherein the first and second facial images are apex expressions.

6. The method according to claim 1, further comprising the step of:

adding to the dataset, a neutral facial image;

mapping the neutral facial image to a neutral point in the continuous dimensional emotion space; and

determining a first intensity point in the continuous dimensional emotion space, the first intensity point being a position between the neutral point and the third point:

wherein the intensity variation image and the second dimensional label are based on the first intensity point's relative position between the neutral point and the third expression point.

7. The method according to claim 6, wherein the first intensity point is determined by applying an intensity distance to the neutral point.

8. The method according to claim 7, wherein the intensity distance is preselected.

9. A non-transitory storage medium comprising machine readable instructions stored thereon for causing a computer system to perform a method according to claim 1.

10. A computer-implemented method of augmenting a dataset used in facial expression analysis comprising the steps of:

adding to a dataset, a neutral facial image, a first facial image, and a second facial image;

mapping the neutral facial image to a neutral point, the first facial image to a first expression point, and the second facial image to a second expression point, the neutral point, the first expression point, and the second expression point being located in a continuous dimensional emotion space;

determining a position of a third expression point in the continuous dimensional emotion space, the third expression point being a position between the first and second expression point;

determining a first intensity point on an intensity plane in the continuous dimensional emotion space, the first intensity point being a position between the neutral facial image and the third expression point;

generating an intensity variation image; and

assigning a dimensional label to the intensity variation image;

wherein the intensity variation image and the dimensional label are based on the first intensity point's relative position between the neutral facial image and the third expression point.

11. The method according to claim 10, wherein the intensity variation image is obtained by applying a morph function to interpolate the neutral facial image and an expression variation image corresponding to the third expression point.

12. The method according to claim 11, wherein the continuous dimensional emotion space is a valence-arousal circumplex.

13. A non-transitory storage medium comprising machine readable instructions stored thereon for causing a computer system to perform a method according to claim 10.

14. The method of claim 11, wherein the expression variation image is a morphed image derived from the position of the third expression point, based on its position relative to the first expression point and the second expression point.