CLAIMS

1. A method for visualizing change in a myopic fundus, comprising:

determining, based on a fundus image to be processed, an image of fundus characterization region, wherein the image of fundus characterization region comprises a tessellation characteristic region; and

determining, based on the image of fundus characterization region, a first visualized image corresponding to the fundus image to be processed, wherein the first visualized image is configured to characterize distribution of tessellation, and the determining, based on the image of fundus characterization region, a first visualized image corresponding to the fundus image to be processed comprises:

determining, based on the image of fundus characterization region, a digital image corresponding to the fundus image to be processed, wherein the digital image represents the distribution of the tessellation in a digital form; and

determining, based on the digital image, the first visualized image corresponding to the fundus image to be processed through a mapping processing.

2. The method according to claim 1, wherein the determining, based on the image of fundus characterization region, a digital image corresponding to the fundus image to be processed comprises:

determining a plurality of window regions in the image of fundus characterization region by using a preset window, wherein each of the plurality of window regions comprises at least one pixel;

determining a tessellation characteristic of each of the plurality of window regions;

determining, based on the tessellation characteristic of each of the plurality of window regions, a tessellation index by using an area of the window region or characteristic data of a region of interest in the image of fundus characterization region; and

determining, based on the tessellation index, the digital image corresponding to the fundus image to be processed.

3. The method according to claim 2, wherein the tessellation index comprises at least one of fundus tessellated density, tessellation proportion, and a tessellated morphology parameter.

4.The method according to claim 2, wherein the characteristic data of the region of interest in the image of fundus characterization region comprises at least one of a diameter of the region of interest, an area of the region of interest, and boundary data of the region of interest.

5. The method according to claim 2, wherein the determining a tessellation characteristic of each of the plurality of window regions comprises:

performing, for each of the plurality of window regions, when the window region comprises a pixel located at an edge of the region of interest and an area of the window region outside the region of interest is greater than a preset threshold, an edge processing on the region of interest, wherein the edge processing comprises performing a mirror processing on the pixel located at the edge of the region of interest by taking the edge of the region of interest as a reference to obtain a mirrored edge region; and

determining, based on a window region comprising at least part of the mirrored edge region, the tessellation characteristic of the window region.

6. The method according to claim 2, wherein the determining a tessellation characteristic of each of the plurality of window regions comprises:

performing, for each of the plurality of window regions, when the window region comprises a pixel located at an edge of the region of interest, an enlargement processing on the edge of the region of interest to determine an enlarged edge region; and

determining, based on a window region comprising at least part of the enlarged edge region, the tessellation characteristic of the window region.

7. The method according to claim 1, wherein the first visualized image comprises a two-dimensional first visualized image or a three-dimensional first visualized image, and the determining, based on the digital image, the first visualized image corresponding to the fundus image to be processed comprises:

mapping the digital image to a two-dimensional color space, and determining the two-dimensional first visualized image; or

mapping the digital image to a three-dimensional space, and determining the three-dimensional first visualized image; or

mapping the digital image to a two-dimensional color space, mapping the two-dimensional color space to a three-dimensional space, and determining the three-dimensional first visualized image.

8. The method according to any one of claims 1 to 7, wherein the image of fundus characterization region further comprises an atrophy region; and after the determining, based on a fundus image to be processed, an image of fundus characterization region, the method further comprises:

determining, based on the image of fundus characterization region, the atrophy region in the image of fundus characterization region; and

determining, based on the first visualized image and the atrophy region, a second visualized image corresponding to the fundus image to be processed.

9. The method according to any one of claims 1 to 7, wherein the image of fundus characterization region further comprises an atrophy region; and after the determining, based on a fundus image to be processed, an image of fundus characterization region, the method further comprises:

determining, based on the image of fundus characterization region, the atrophy region in the image of fundus characterization region; and

determining, based on the first visualized image, the atrophy region, and the tessellation characteristic region, a second visualized image corresponding to the fundus image to be processed.

10. The method according to any one of claims 1 to 7, wherein the image of fundus characterization region further comprises at least one of a peripapillary atrophy region, a macula region, and a papilla region.

11. The method according to claim 10, after the determining, based on a fundus image to be processed, an image of fundus characterization region, further comprising:

determining, based on the image of fundus characterization region, the peripapillary atrophy region in the image of fundus characterization region;

determining, based on at least one of the peripapillary atrophy region, the macula region, and the papilla region, a marked region of the image of fundus characterization region, wherein the marked region is configured to characterize a region prompting a user to focus on; and

determining, based on the first visualized image and the marked region, a third visualized image corresponding to the fundus image to be processed.

12. The method according to claim 11, wherein the determining, based on at least one of the peripapillary atrophy region, the macula region, and the papilla region, a marked region of the image of fundus characterization region comprises:

when the marked region of the image of fundus characterization region is determined based on the peripapillary atrophy region, determining the marked region by marking with a wrap angle extension line,

wherein the wrap angle extension line is obtained by extending two sides of a wrap angle to obtain the wrap angle extension line.

13. The method according to claim 11, wherein the determining, based on at least one of the peripapillary atrophy region, the macula region, and the papilla region, a marked region of the image of fundus characterization region comprises:

when the marked region of the image of fundus characterization region is determined based on the macula region, determining the marked region by marking the macula region in the image

of fundus characterization region.

14. The method according to claim 11, wherein the determining, based on at least one of the peripapillary atrophy region, the macula region, and the papilla region, a marked region of the image of fundus characterization region comprises:

when the marked region of the image of fundus characterization region is determined based on the papilla region, determining the marked region by marking the papilla region in the image of fundus characterization region.

15. An apparatus for visualizing change in a myopic fundus, comprising:

a determining module, configured to determine, based on a fundus image to be processed, an image of fundus characterization region, wherein the image of fundus characterization region comprises a tessellation characteristic region; and

a visualization module, configured to determine, based on the image of fundus characterization region, a first visualized image corresponding to the fundus image to be processed, wherein the first visualized image is configured to characterize distribution of tessellation;

wherein the visualization module is further configured to:

determine, based on the image of fundus characterization region, a digital image corresponding to the fundus image to be processed, wherein the digital image represents the distribution of the tessellation in a digital form; and

determine, based on the digital image, the first visualized image corresponding to the fundus image to be processed through a mapping processing.

16. An electronic device, comprising:

a processor; and

a memory, configured to store executable instructions of the processor, wherein

the processor is configured to implement the method according to any one of claims 1 to 14.

17. A computer-readable storage medium, wherein a computer program is stored in the storage medium for executing the method according to any one of claims 1 to 14.