

intensity feature maps obtained by convolving intensity filters with the portion of the image;

colour feature maps obtained by convolving colour filters with the portion of the image; and/or

direction-specific feature maps, each direction-specific features map being obtained by pooling the results of filtering the portion of the image using a plurality of direction-specific filters which filter the portion of the image in the same direction but at different distance scales.

11. A method according to claim 1, in which at least some of the plurality of numerical measures for each sub-region model:

intensity units which produce a value indicative of an average over the sub-region of a centre-surround intensity difference;

colour units which produce a value indicative of an average over the sub-region of a centre surround colour difference; and/or

direction-specific units which produce a value using filters which, for each of said direction-specific units, perform a filtering operation in a corresponding direction.

12. A method according to claim 11 in which there are a plurality of the intensity units, each intensity unit being modelled by forming an average over the sub-region of the magnitude of a difference $I(c,s)$ between a first intensity function and a second intensity function, each of the intensity functions being defined over the image, and the second intensity function being obtained by sampling the first intensity function and interpolating values between the samples.

13. A method according to claim 11 in which the derivation of the numerical measures modelling the intensity units comprises:

convolving dyadic pyramids with the intensity channel of a colour image, to generate a plurality of intensity functions $I(c)$, the intensity functions being labelled by

an integer index c which takes values greater than 2 and represents of a corresponding scale in the image.

14. A method according to claim 11 in which there are a plurality of said numerical measures modelling colour units and obtained by:

using dyadic Gaussian pyramids and a colour function obtained from the image, to generate modified colour functions on a plurality of respective distance scales,

obtaining each numerical measure by forming an average over the sub-region of the magnitude of a difference between a first said modified colour function and a second said modified colour function, the first and second modified colour functions having different respective said distance scales.

15. A method according to claim 11 in which said numerical measures modelling direction-specific units are derived by, for each of a plurality of directions:

filtering said image using a plurality of filters which each perform a filtering operation in that direction, the plurality of filters having different respective distance scales; and

pooling results of said filtering obtained using pairs of said filters.

16. The method according to claim 15 in which said filters are Gabor filters, the distance scale for each filter being a distance parameter used to define the corresponding filter using a Gabor mother function.

17. The method according to claim 1 in which the sub-regions are obtained by a clustering algorithm.

18. A method for obtaining a CDR ratio of an eye from at least one image of the eye, the method including: