What is claimed is:

1. An automatic method of analysing a retina image to detect the presence of drusen, the method including:

deriving a region of interest of the retina image including the macula;

dividing the region of interest into a plurality of patches,

obtaining a respective local descriptor of each of the patches, and

detecting drusen from the local descriptors by inputting data derived from the local descriptors into an adaptive model which generates data indicative of the presence of drusen;

wherein the local descriptors are used to generate respective transformed data of lower dimensionality by matching each local descriptor to a respective one of a number of predetermined clusters in a cluster model, and the data input to the adaptive model is obtained from the transformed data.

~~2. A method according to claim 1 in which the local descriptors are used to generate respective transformed data of lower dimensionality by matching each local descriptor to a respective one of a number of predetermined clusters in a cluster model, and the data input to the adaptive model is obtained from the transformed data.~~

~~3~~2. A method according to claim ~~2~~1 in which the cluster model is a tree-like model having a branching structure including leaf nodes, the local descriptors being matched with leaf nodes of the branching structure, and the transformed data being in the form of data labelling leaf nodes by their position within the branching structure.

~~4~~3. A method according to claim 1 in which the local descriptor comprises one or more of the following:

average intensity of the patch;

average colour of the patch;

texture of the patch; and

data characterizing edges within the patch.

~~5~~4. A method according to claim 1 in which the adaptive model is adapted to produce an output indicative of the presence of drusen anywhere in the region of interest.

~~6~~5. A method according to claim 1 in which the adaptive model is adapted to identify locations within the region of interest associated with drusen.

~~7~~6. A method according to claim ~~6~~5, in which the local descriptors are used to generate respective transformed data of lower dimensionality by matching each local descriptor to a respective one of a number of predetermined clusters in a cluster model, and the data input to the adaptive model is obtained from the transformed data, the method further including generating an transformed image from the transformed data, and for each of a plurality of locations in the transformed image, applying a context feature having a plurality of grid regions, to generate histogram data for each of the grid regions, the histogram data being input to the adaptive model.

~~8~~7. A method according to claim ~~7~~6 in which for each of the plurality of locations in the transformed image, the context feature is applied at a plurality of different distance scales, thereby at each distance scale generating respective histogram data to input into the adaptive model.

~~9~~8. A method according to claim ~~7~~6 in which the grid regions include a central grid region, and a plurality of additional grid regions surrounding the central grid region.

~~10~~9. A method according to claim 1 in which the region of interest is derived by determining a position of the macula centre, and generating the region of interest as a region surrounding the macula centre.

~~11~~10. A method according to claim ~~10~~9 in which the step of determining the position of the macula centre is performed by seeking a location of minimal intensity in a macula search region of the retina image.

~~12~~11. A method according to claim ~~11~~10 in which the location of minimal intensity is found by defining a plurality of seeds in the retina image, and iteratively moving the seeds to locations of minimal intensity in respective regions defined around the seeds.

~~13~~12. A method according to claim ~~11~~10 in which the macula search region is obtained by seeking the optic disk within the retina image, and defining the macula search region relative to the optic disk.

~~14~~13. A method according to claim ~~13~~12 further including determining whether the image relates to a left or right eye, and defining the macula search region relative to the optic disk accordingly.

~~15~~14. A computer system for analysing a retina image to detect the presence of drusen, the computer system including a processor and a data storage device storing program instructions operative by the processor to cause the processor to analyse a retina image to detect the presence of drusen, by:

deriving a region of interest of the retina image including the macula;

dividing the region of interest into a plurality of patches,

obtaining a respective local descriptor of each of the patches, and

detecting drusen from the local descriptors by inputting data derived from the local descriptors into an adaptive model which generates data indicative of the presence of drusen;

wherein the local descriptors are used to generate respective transformed data of lower dimensionality by matching each local descriptor to a respective one of a number of predetermined clusters in a cluster model, and the data input to the adaptive model is obtained from the transformed data.

~~16~~15. A computer program product storing non-transitory program instructions operative by the processor to cause the processor to analyse a retina image to detect the presence of drusen, by:

deriving a region of interest of the retina image including the macula;

dividing the region of interest into a plurality of patches,

obtaining a respective local descriptor of each of the patches, and

detecting drusen from the local descriptors by inputting data derived from the local descriptors into an adaptive model which generates data indicative of the presence of drusen;

wherein the local descriptors are used to generate respective transformed data of lower dimensionality by matching each local descriptor to a respective one of a number of predetermined clusters in a cluster model, and the data input to the adaptive model is obtained from the transformed data.