**Methodology**

1. Conversion to grayscale
2. Histogram equalisation for enhancing contrast between retina and noisy surrounding
3. **Morphological snake boundary detection:** calculate Inverse Gaussian gradient, create circle set and perform segmentation done with help of contour gradient changes
4. **Morphological Snake Dilation:** Enlarge retina (object of interest) in both images for easier comparison of shapes

A diabetic patient’s retina is far deviant from spherical shape. Serious deviations from spherical shape and measurement will enable domain experts to not only determine presence of diabetes but also severity level. Presence of surrounding patches are also indication of diabetes and are of interest as well for diabetes detection.