

## **Research Proposal**

### **Title:**

Automatic analysis and detection of Damages in Retina using edge detection technique in digital image processing.

### **Objective:**

The main aim of this research proposal is to develop a system to use in medical field to analyse and detect retina damage for diabetic patients.

### **Introduction:**

In computer science, digital image processing is the use of a digital computer to process digital images through an algorithm. The three phases that have to undergo while using digital technique are pre-processing, enhancement, and display, information digital image processing allows a much wider range of algorithms to be applied to the input data and can avoid problems such as the build-up of noise and distortion during processing. Edge detection is an image processing technique for finding the boundaries of objects within images. It works by detecting discontinuities in brightness. Edge detection is used for image segmentation and data extraction. The search-based methods detect edges by first computing a measure of edge strength, usually a first-order derivative expression such as the gradient magnitude, and then searching for local directional maxima of the gradient magnitude using a computed estimate of the local orientation of the edge, first we detect these edges in an image and by using these filters and then by enhancing those areas of image which contains edges, sharpness of the image will increase and image will become clearer.

### **Scope:**

This research can be widely used in treating diabetic patients for treating retina damage.