

# **Automatic Detection of Dark and Bright lesions using Segmented retinal Images**

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**Session: 2010 – 2014**

## **Dedication**

Parents are the only one in this whole world, besides ALLAH on which a person can rely. So we would like to dedicate this project to them for they have supported us in our every endeavor with their kindness and love.

## **Acknowledgements**

First and Foremost we thank Allah (SWT) for His countless and endless blessings and for giving us the power to undertake this project. We would like to thank Dr. Shehzad Khalid for his immense support, guidance and mentoring. Without him the project would not be a reality. We would like to thank Dr. Usman whose help was instrumental in this project.

## **Abstract**

The main purpose of our system is to help detect blindness in Diabetic patients. Diabetes is one of most commonly occurring disease and Diabetic retinopathy is one of the leading causes of blindness in diabetic patients. In Diabetic retinopathy the blood vessels present in the eye are affected as a result of chronic diabetes. In early stages fragile blood vessels in retina are further weakened. This results in the blood vessels leaking various fluids, lipids, proteins and blood on the retina. With these spots on the retina the vision becomes blurred with dark spots in between. If the disease is left untreated at this stage it progresses further and enters later stage. In this stage new fragile vessels are formed to replace older ones however they can also rupture leading to complete blindness. Using Image Processing Techniques our System identifies the various characteristics of these lesions and then using various machine learning algorithms it classifies them. Our System will assist a trained ophthalmologist in the identification of the disease.

## List of Figures

1. Diabetic retinopathy
2. Retina having Diabetic retinopathy
3. Showing Different Classifiers
4. Candidate Hyperplane
5. Optimum Hyperplane
6. Normal Distribution
7. GMM Model
8. Euclidian Distance
9. Euclidian Distance
10. Labels
11. Mean
12. Candidate Distance
13. Euclidian Distance between Mediods and Data Row
14. Combining Mediods
15. Least Cost Path
16. Probability Function
17. Hybrid Classifier
18. Weighted Product

## List of Tables

1. Classifier Weight