CHAPTER 7

CONCLUSION

7.1 CONCLUSION

This thesis presents the efficient symptoms based neuro fuzzy computer aided diagnosis system to assist the clinician’s to diagnose the various diseases such as exudate, cataract, and glaucoma in prior stage in iris. Inevitable properties of biometric is used to identity the person in the security system.

Biometric is essential for personalities and humanity. Iris recognition may failed due to accident, disease, and medication. So re-enrolling is essential for iris recognition. Exudate, cataract, glaucoma diseases are identified and additionally to check whether the structural changes are occurred or not while iris is affected by those kind of diseases.

Disease diagnosis and performance analysis has been done using MATLAB 13.0. The experimental results show that the proposed method achieves sensitivity of 92.66%, specificity of 98.53% and accuracy of 98.45% on the retinal images.

We have developed an exudate detection system using Hough transform algorithm and performance are evaluated. From the result structural changes are occurred in iris due to exudate is proved. We also developed a
cataract analysis system to analyse the structural Changes in iris due to cataract surgery using Gober algorithm.

Then we developed a glaucoma detection system. In this system glaucoma disease is identified by using EM (Expectation maximization) segmentation algorithm and the structural changes occurred due to glaucoma is proved by the measurement of structural metrics.

Finally we developed a neuro fuzzy Computer Aided Diagnosis system (CAD) for ocular diseases identification of exudate, cataract and glaucoma. With the help of fuzzy and neuro system, the rules and symptoms are finalized and an Adaptive Neuro Fuzzy Inference System (ANFIS) is developed.

From the analysis it has been perceived that structural changes is identified in the iris due to various diseases such as exudate, cataract and glaucoma.

Therefore, re-enrolling is necessary for iris recognition system. This proposed adaptive neuro fuzzy inference system for iris isis is helpful clinicians for medical diagnosis and also other professionals like police, customs control incase a mismatching problem occurs in proving visa, aadhaar card, smart card, residence card, etc. for authentication.
7.2 FUTURE WORK

The Present work is implemented only for three ocular diseases such as exudate, cataract and glaucoma. The future work may be extended to all disease such as Ocular burn, Sub-conjunctival Hemorrhage, Contact Lens, Cataract, Eye Drainage, Eyelid Twitching, Eye Disorders, Dry Eyes, AMD, Scleritis, Nerve Damage, Diabetic Retinopathy, Gastrointestinal Iris Diseases, etc. If all iris based diseases make the changes in iris and its structure, then the measurement of percentage variation will be included in future and it is helpful to the social network for authentication. In future, real time hospital dataset is used for identifying the ocular disease.