BITS F423T – THESIS
MID-SEMESTER PRESENTATION

GUIDED BY
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SUBMITTED BY

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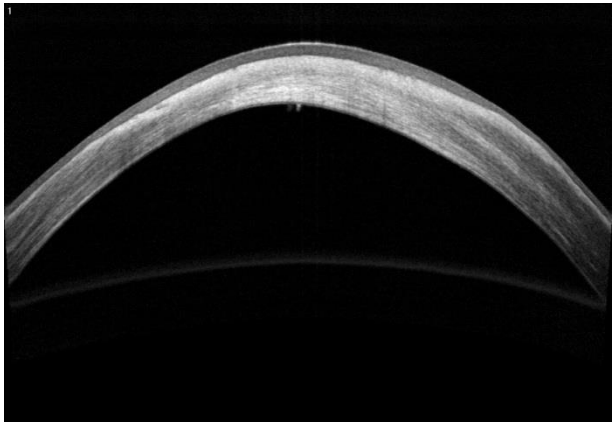
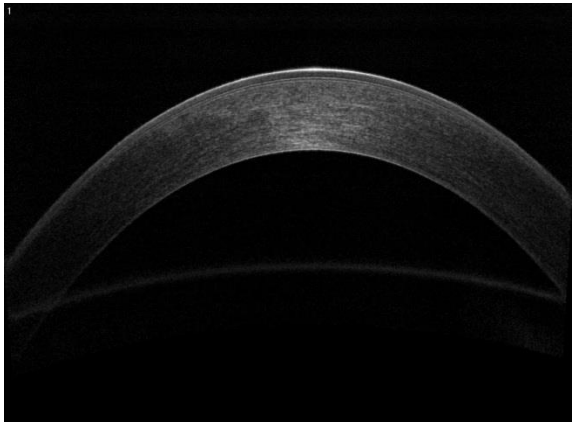
OUTLINE

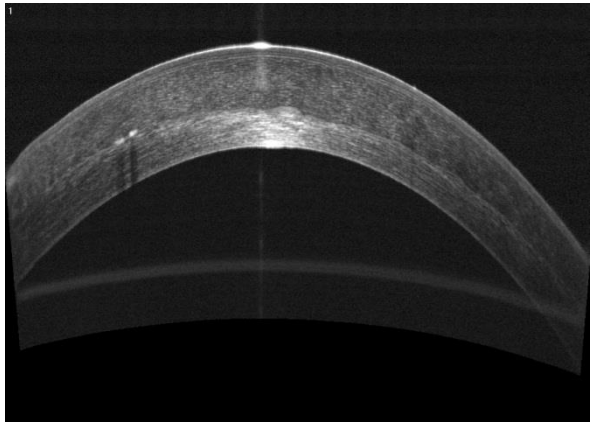
- 1. PROBLEM STATEMENT
- 2. BACKGROUND
- 3. PLAN OF WORK
- 3.a) WORK COMPLETED
- 3.b) WORK AHEAD

1.PROBLEM STATEMENT

- DETERMINING METRICS FOR RECONSTRUCTION OF CORNEA USING IMAGE PROCESSING



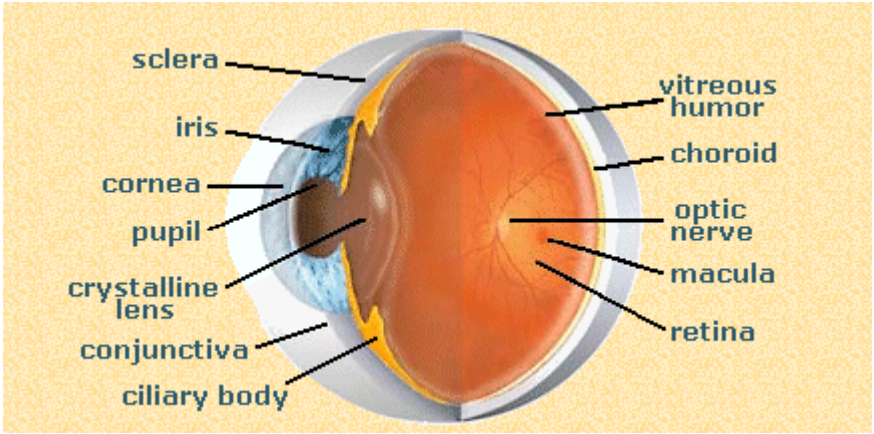




DAMAGED → NORMAL → RECONSTRUCTED

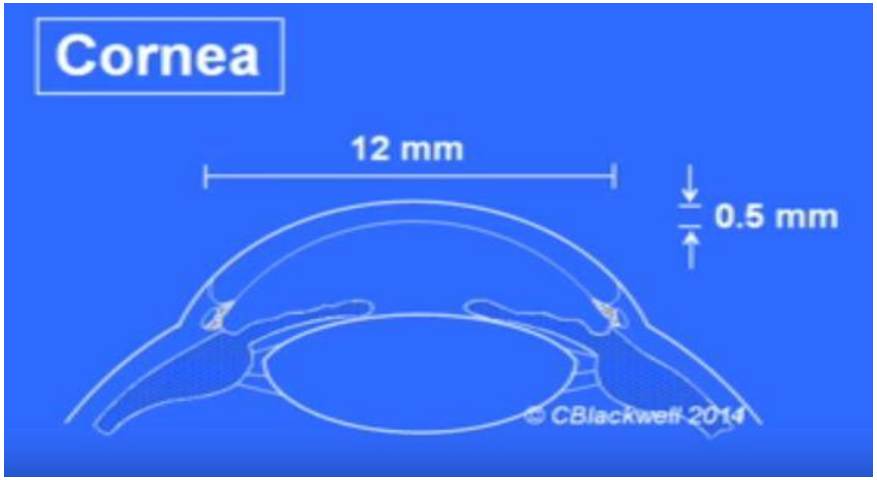
BACKGROUND

- EYE



- CORNEA –
- Transparent

dome like structure which focus the incoming light rays

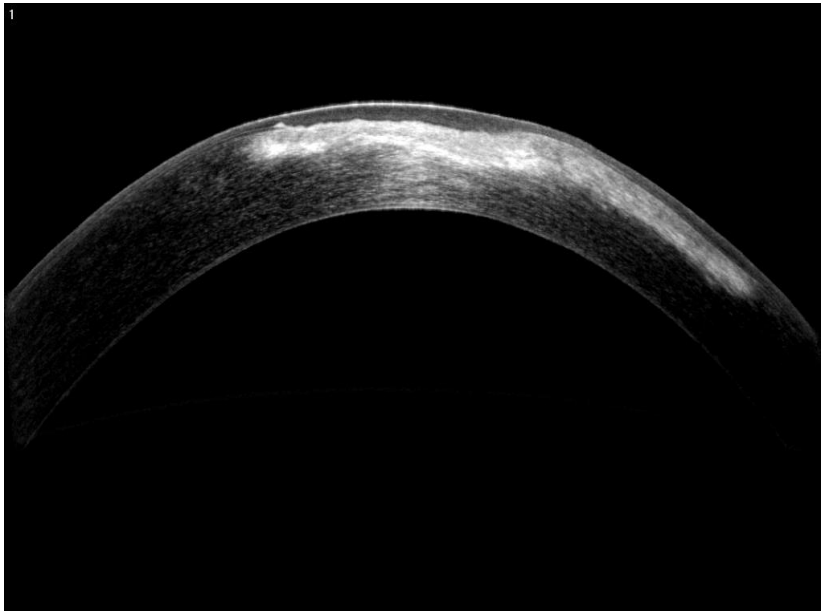


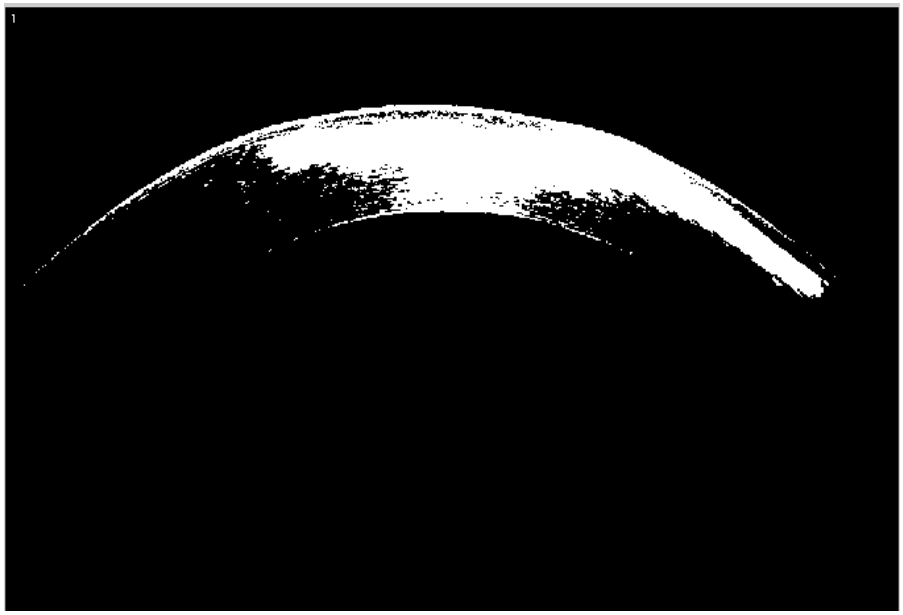
DAMAGE TO CORNEA & REMEDY

- Allergies , Conjunctivitis (Pink Eye), Fuchs' Dystrophy
- Light cannot penetrate the eye to reach the light-sensitive retina.
- Poor vision or blindness may result.
- Corneal Reconstruction
- LVPEI – Dr. C Jagadesh Reddy.

2. PLAN OF WORK

- 2.A) EDGE DETECTION AND RECONSTRUCTING CORNEAL EDGES.
- (Computing Environment Used - MATLAB)



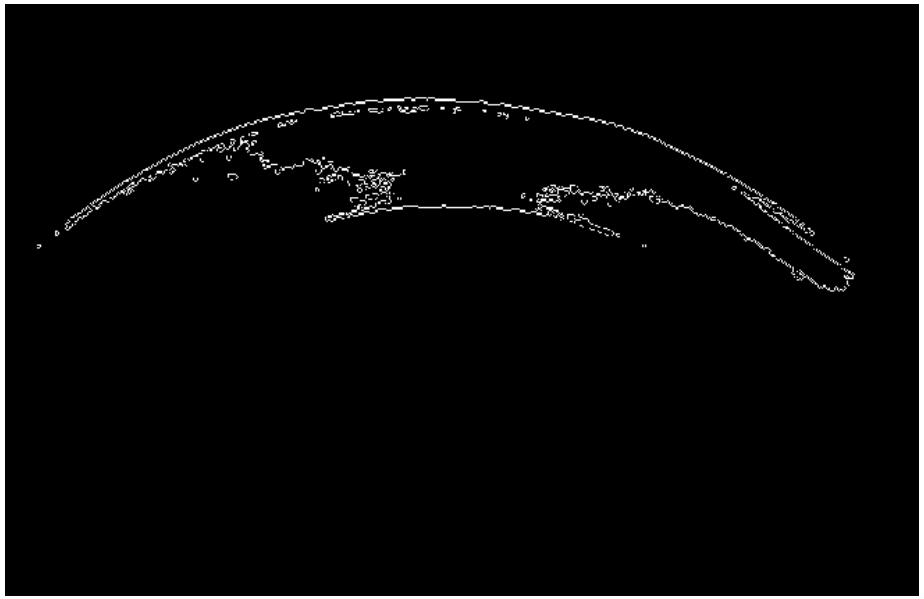


CONVERT THE IMAGE TO A BINARY IMAGE

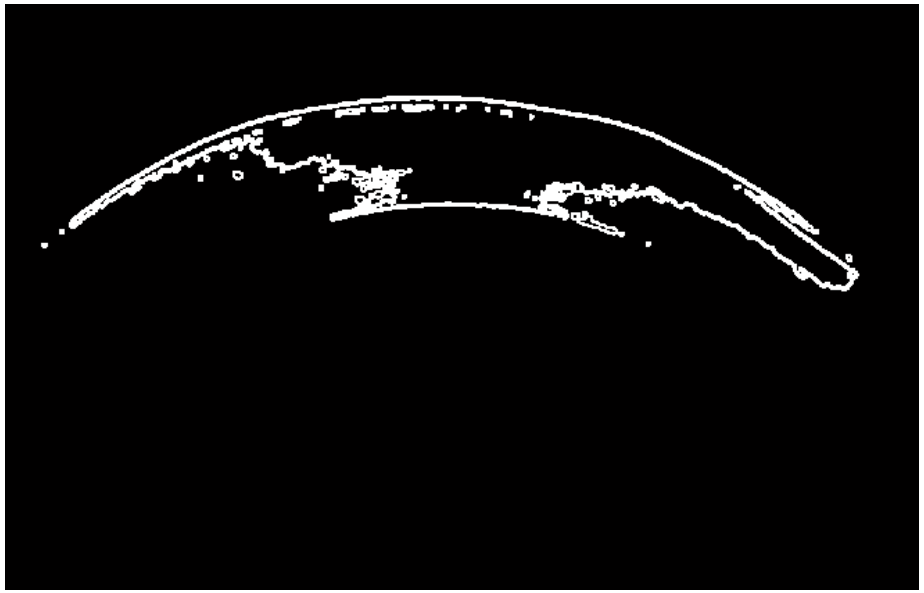
- Removal of noises (Salt & pepper and Blur)

- Complement and apply detect edges

- Fill the gaps in the image obtained fine tune the edge detection

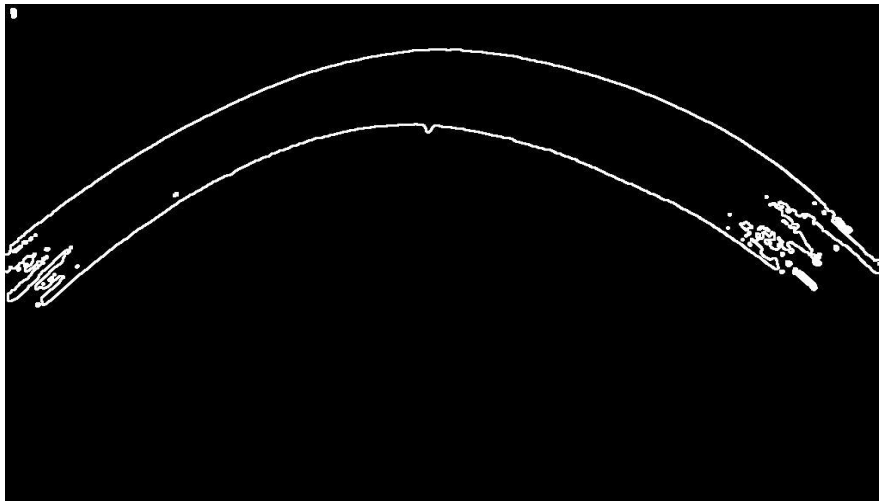


- Dilate the image for extraction of lines

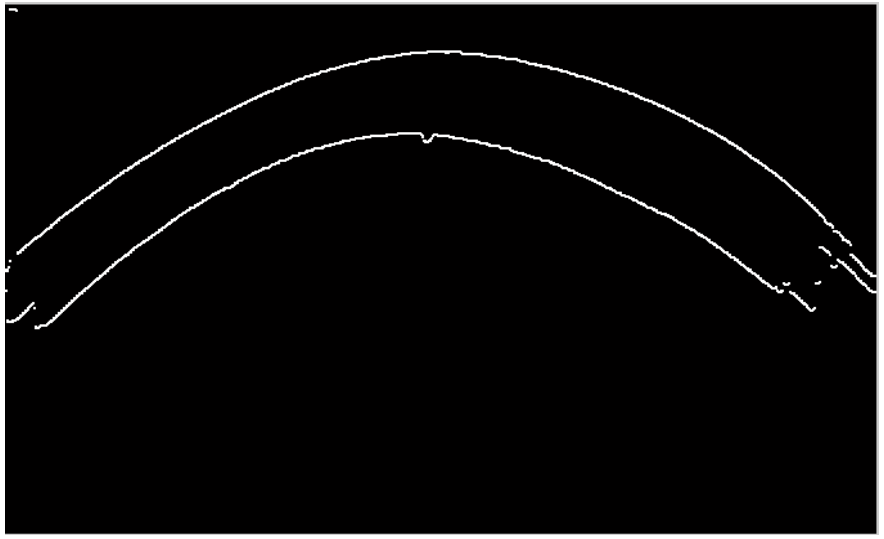


EXTRACTION OF LINES

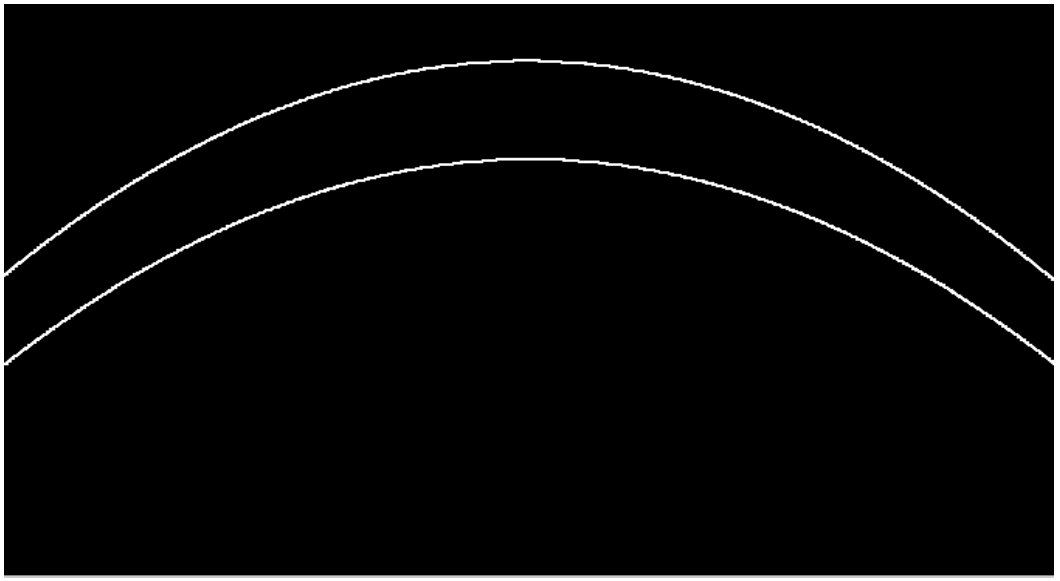
- Sample Image obtained after edge detection



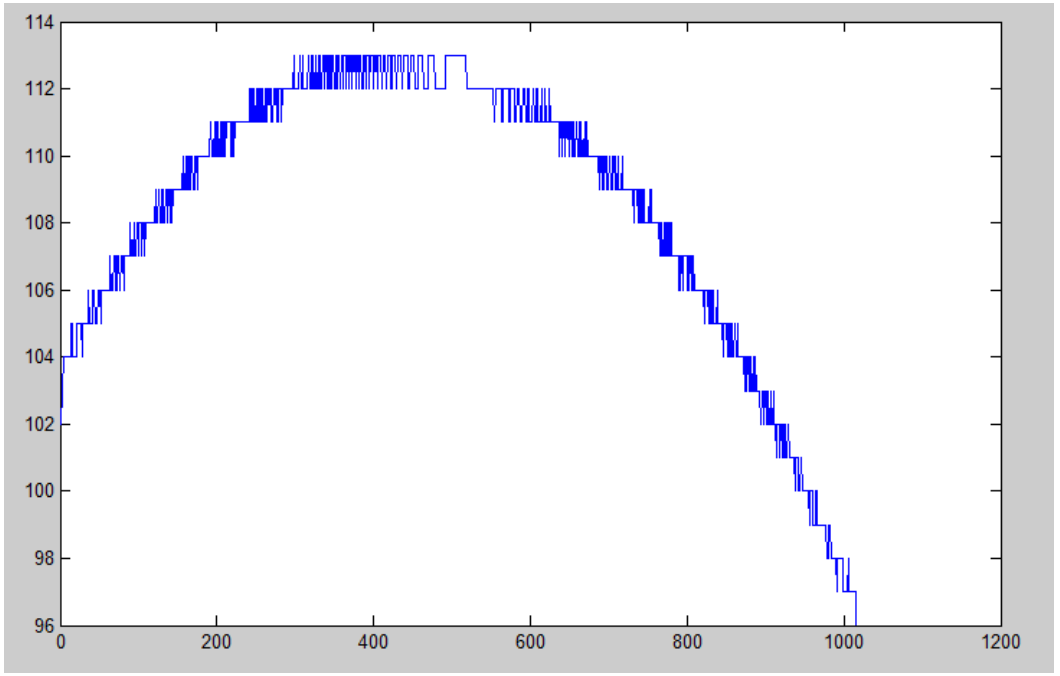
- Extract and dilate



- Polynomial fitting and dilation.



- Plot of distance variation



WORK AHEAD

- TO FIND THE CORRELATION BETWEEN THE CORNEAL DISTANCE (RECONSTRUCTED) AND DAMAGED AND NORMAL CORNEAL DISTANCE

THANK YOU