



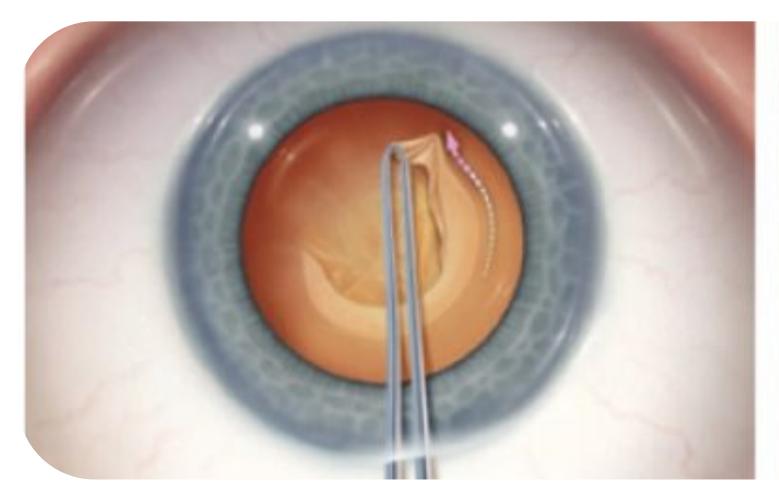
A scoring system for evaluating cataract surgeries

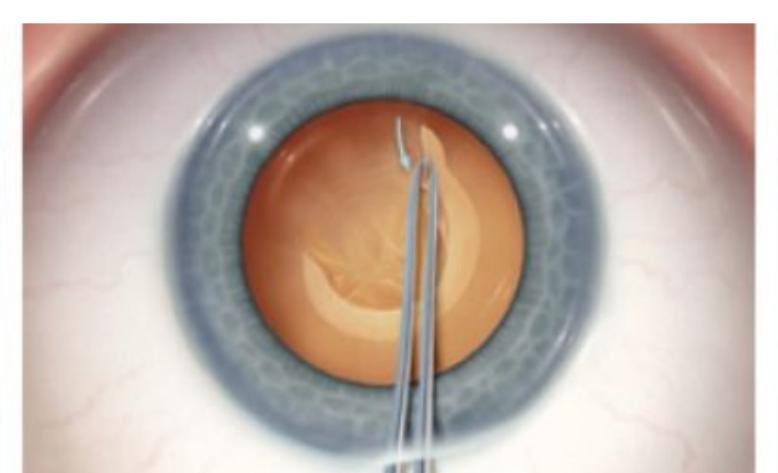


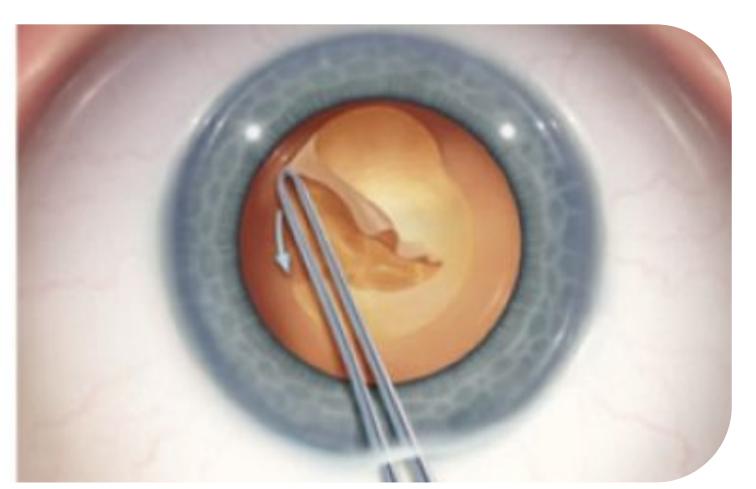
OVERVIEW

In cataract surgery, **capsulorhexis** refers to a central and curvilinear opening in anterior lens capsule so that clear lens can be implanted.

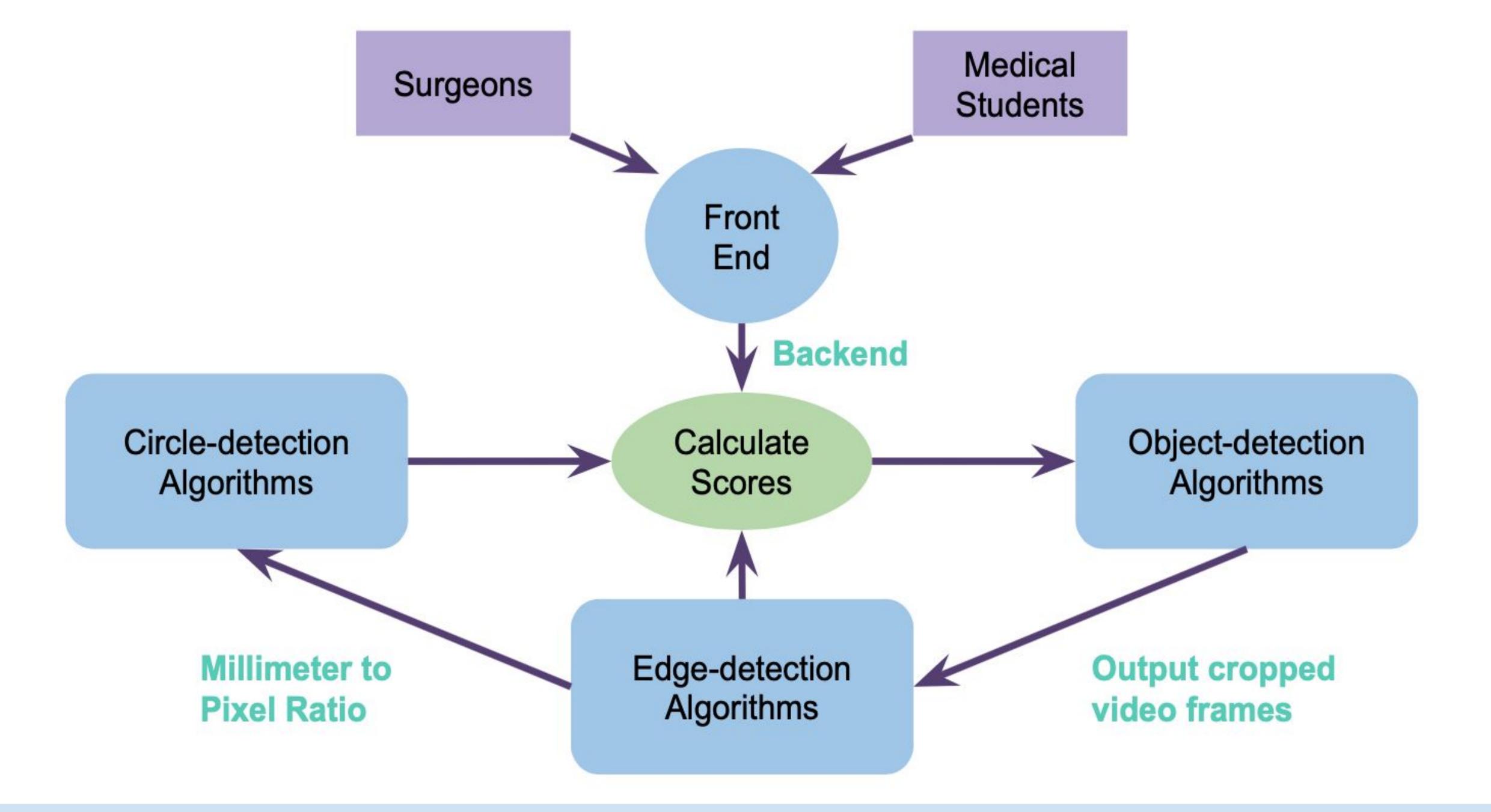
To improve the **precision** of the cataract surgery, a program is designed to evaluate eye surgeons' performances on the capsulorhexis process.







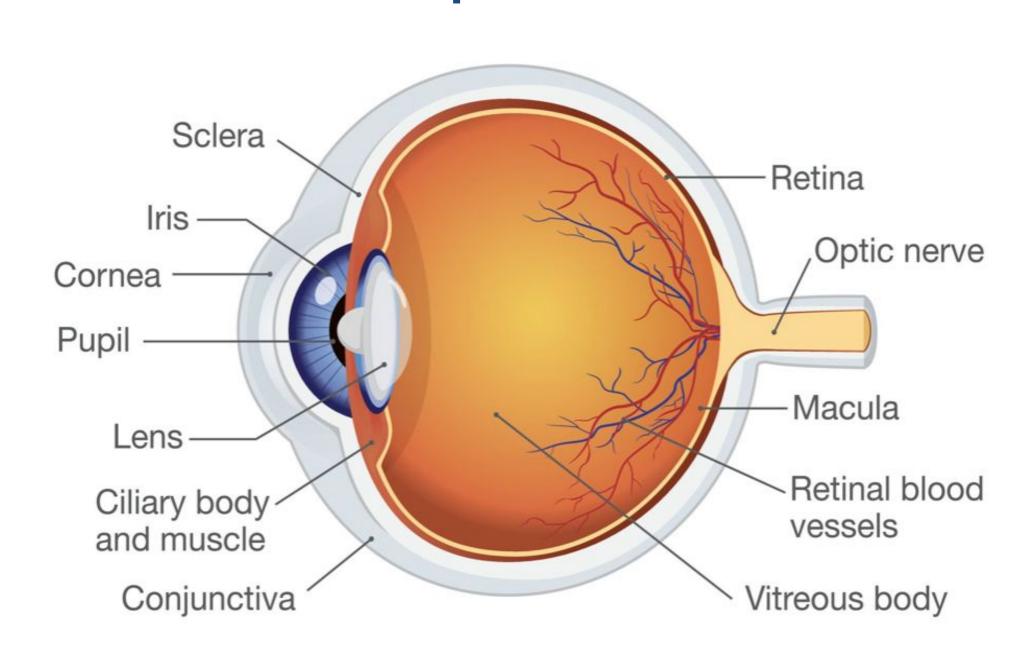
ARCHITECTURE



Alcon SEE BRILLIANTLY Welcome Doctor Please upload videos in the links below Video with a scapel: Choose File no file selected Video with a rhexis: Choose File no file selected CCC process video: Choose File no file selected Upload

FRONTEND

A web page for eye surgeons to upload surgery videos and view scores of their performances.



BACKEND

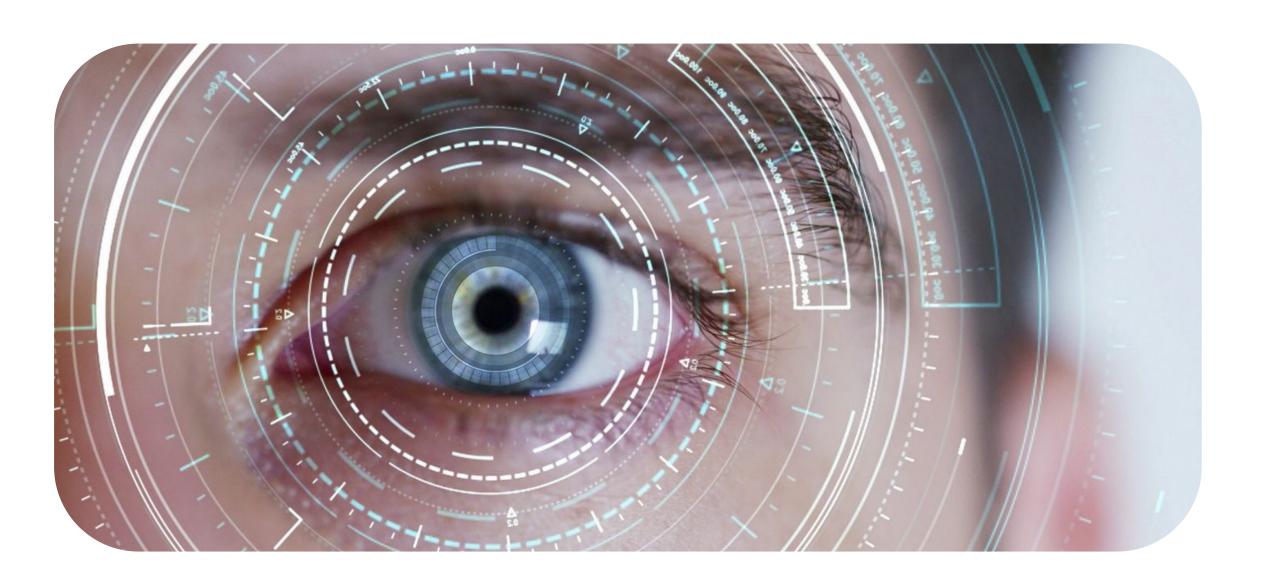
Performance on four parameters

o diameter, centration, roundness, speed of the capsulorhexis

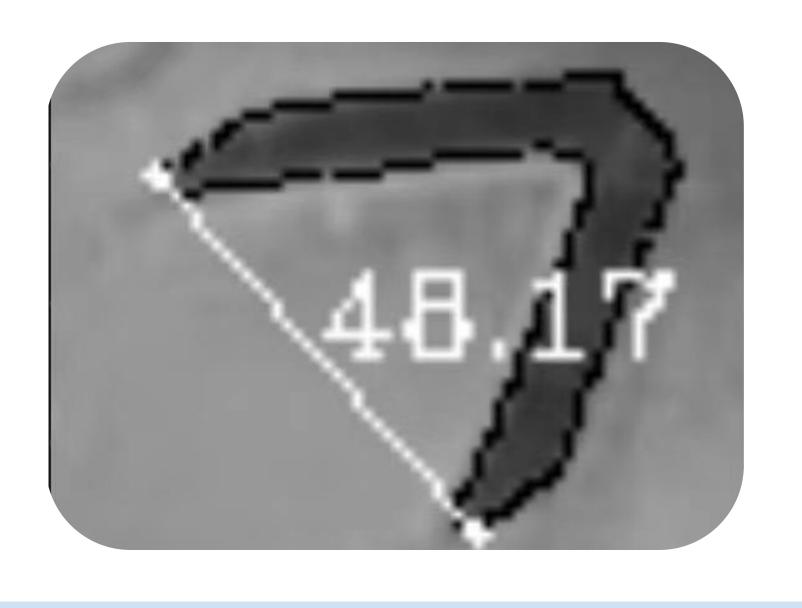
Three main algorithms

- o forcep-detection for measuring speed of capsulorhexis
- o edge-detection for calculating ratio between millimeter to pixel
- circle-detection for detecting the rhexis and limbus

Rhexis and Pupil Detection



Unit Translation

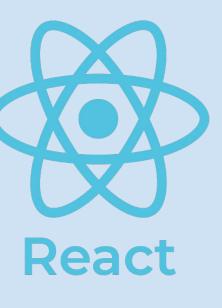


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