Alcon®

Special thanks to
David Chu
Joshua Magera
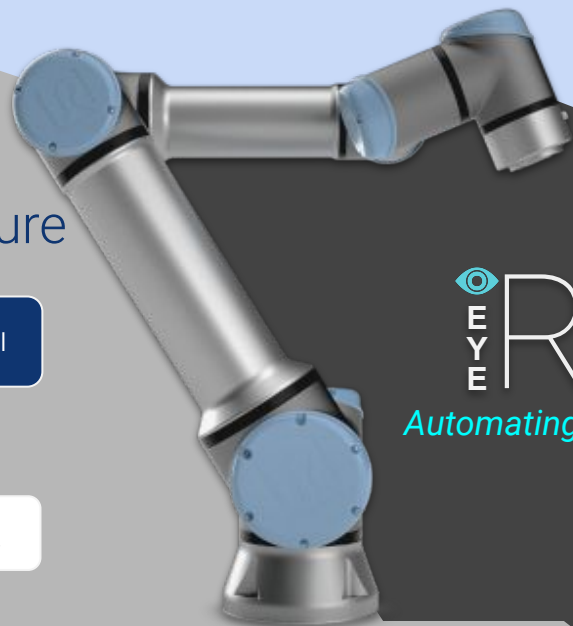Marcellis Carr-Barfield

Motivation
- **600M Cases** of visual impairments predicted by 2040

Solution
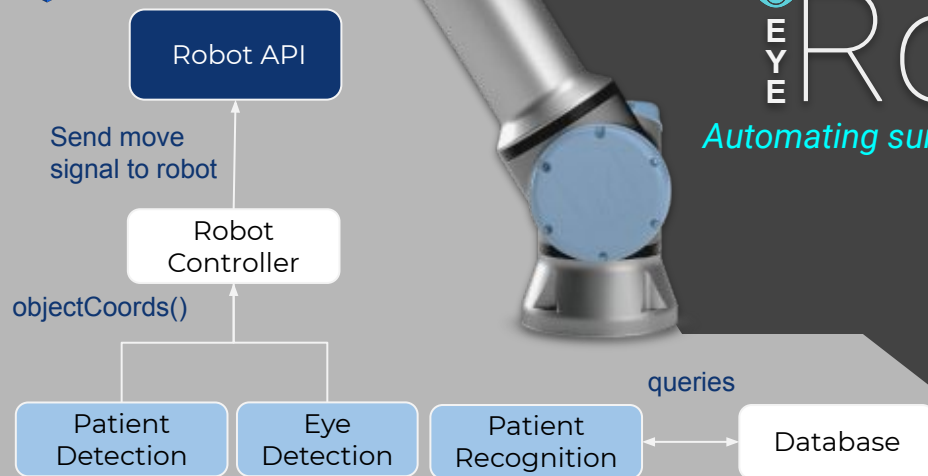- Automate setup process
- Package automation into intuitive GUI

Innovation
- Help more patients see by redefining surgery setup
- Uniquely identify patients by analyzing iris

COMPUTER SCIENCE
UC SANTA BARBARA

iRobot
EYE
Automating surgery, one step at a time

Architecture

Robot API

Send move signal to robot

Robot Controller

objectCoords()

Patient Detection

Eye Detection

Patient Recognition

queries

Database

Usability
All patient data and controls packaged into intuitive GUI

Adaptability
System only relies on QR code and patient visibility

Patient Detection

Eye Detection

Iris Recognition

Python OpenCV PyTorch Kivy SciPy SQLite NGENUITY® *DIGITALLY ASSISTED VITREORETINAL SURGERY* Universal Robots zbar

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