

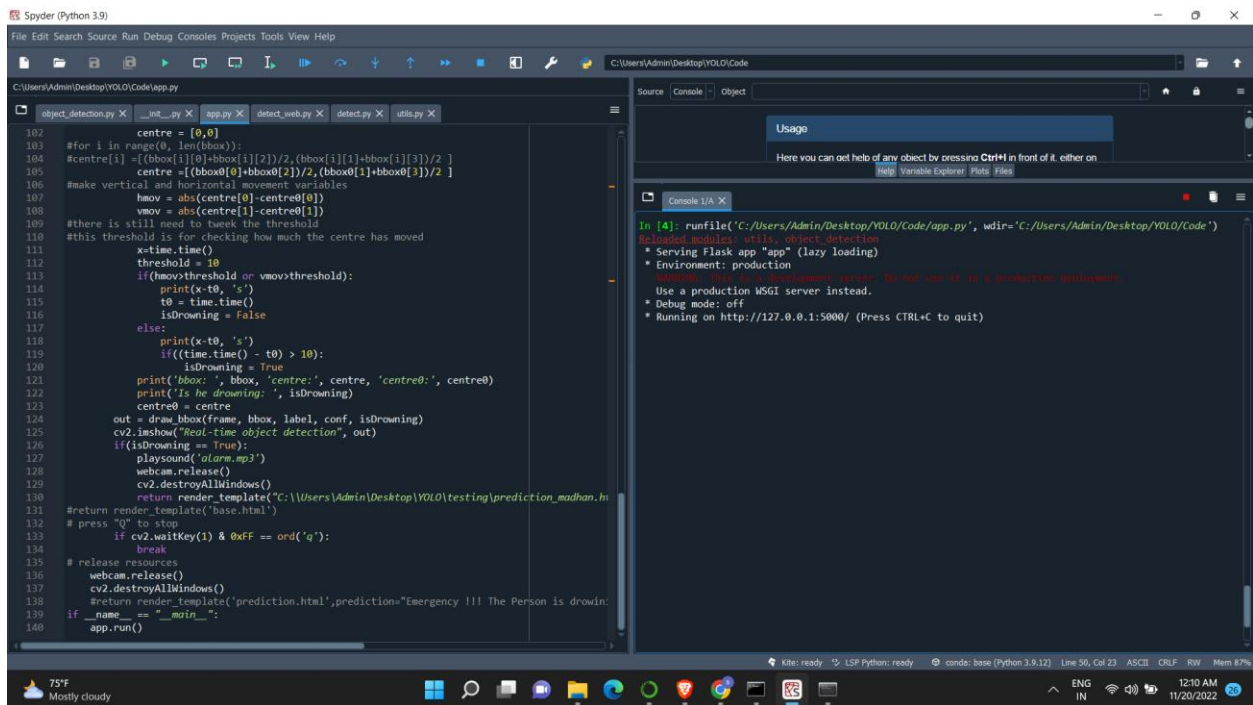
Run the application

Test cases

DATE	17/11/2022
TEAM ID	PNT2022TMID06940
PROJECT NAME	Virtual Eye - Life Guard for Swimming Pools to Detect Active Drowning
MAX MARKS	4 MARKS

1: Run the application

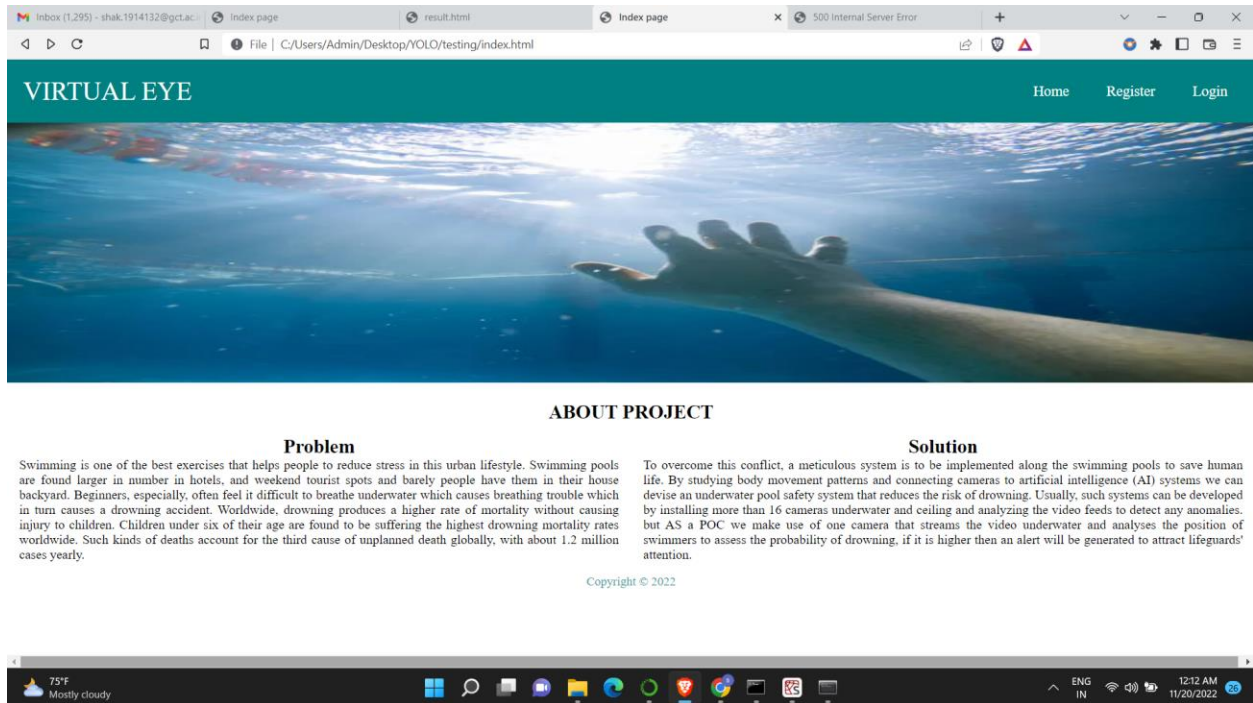
In the command prompt, navigate to the folder in which the flask app is present. When the python file is executed, the localhost is activated on 5000 port (<http://127.0.0.1:5000/>) and can be accessed through it.



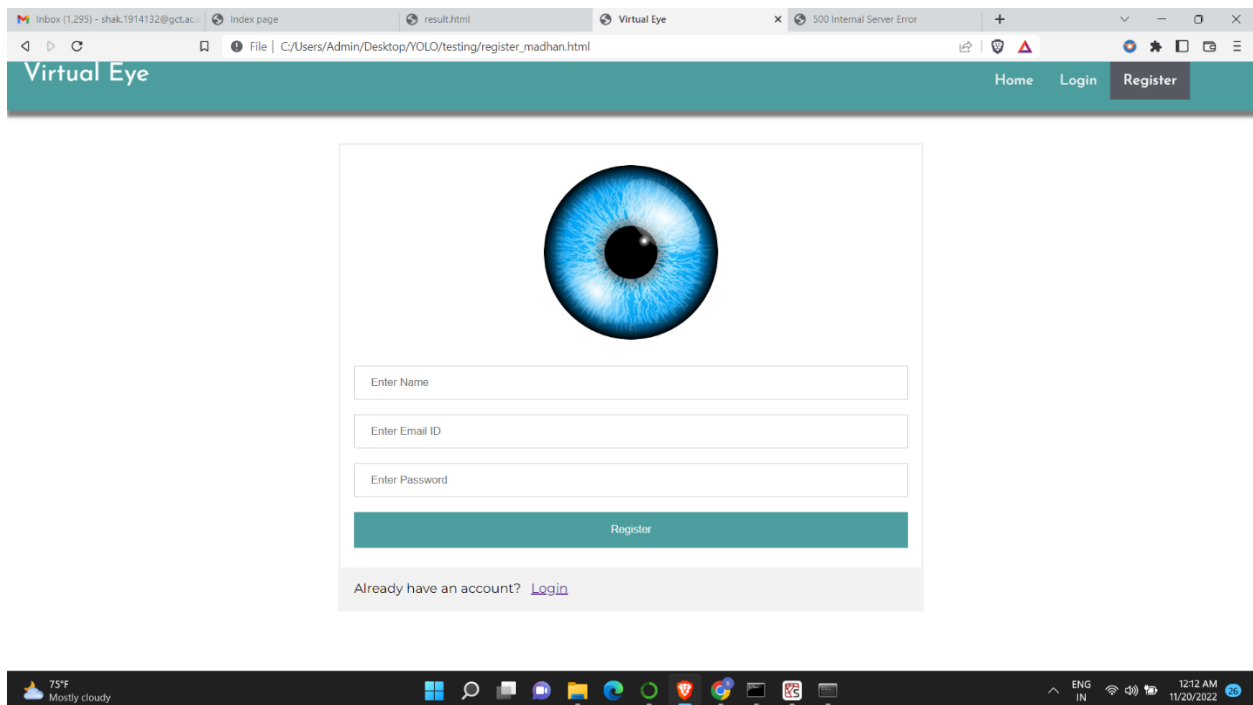
```
File Edit Search Source Run Debug Consoles Projects Tools View Help
C:\Users\Admin\Desktop\YOLO\Code\app.py
object_detection.py __init__.py app.py detect_web.py detect.py utils.py
102 centre = [0,0]
103 #for i in range(0, len(bbox)):
104 #centre[i] = ((bbox[i][0]+bbox[i][2])/2, (bbox[i][1]+bbox[i][3])/2)
105 centre = [(bbox[0][0]+bbox[0][2])/2, (bbox[1][1]+bbox[1][3])/2]
106 #make vertical and horizontal movement variables
107 hmov = abs(centre[0]-centre[0])
108 vmov = abs(centre[1]-centre[0])
109 #there is still need to tweak the threshold
110 #this threshold is for checking how much the centre has moved
111 x=time.time()
112 threshold = 10
113 if(hmov>threshold or vmov>threshold):
114     print(x-t0, 's')
115     t0 = time.time()
116     isDrowning = False
117 else:
118     print(x-t0, 's')
119     if((time.time() - t0) > 10):
120         isDrowning = True
121     print('bbox:', bbox, 'centre:', centre, 'centre0:', centre0)
122     print('Is he drowning: ', isDrowning)
123     centre0 = centre
124 out = draw_bbox(frame, bbox, label, conf, isDrowning)
125 cv2.imshow('Real-time object detection', out)
126 if(isDrowning == True):
127     playsound('alarm.mp3')
128     webcam.release()
129     cv2.destroyAllWindows()
130     return render_template("C:\Users\Admin\Desktop\YOLO\testing\prediction_madhan.hi
131 #return render_template('base.html')
132 # press "q" to stop
133 if cv2.waitKey(1) & 0xFF == ord('q'):
134     break
135 # release resources
136 webcam.release()
137 cv2.destroyAllWindows()
138 #return render_template('prediction.html', prediction="Emergency !!! The Person is drown
139 if __name__ == "__main__":
140     app.run()
```

```
In [4]: runfile('C:/Users/Admin/Desktop/YOLO/Code/app.py', wdir='C:/Users/Admin/Desktop/YOLO/Code')
#Real-time monitoring with object detection
* Serving Flask app "app" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production environment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

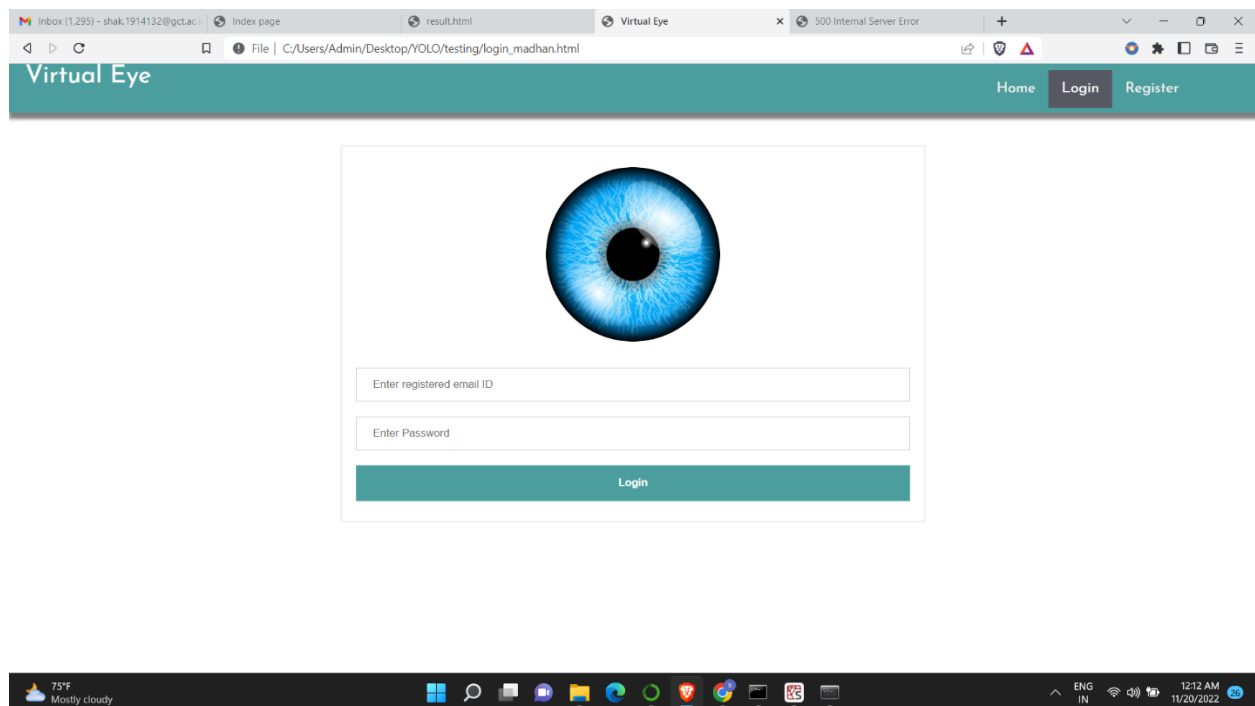
2: Open the browser and navigate to <http://127.0.0.1:5000> to check your application
The home page looks like this. You can click on login or register



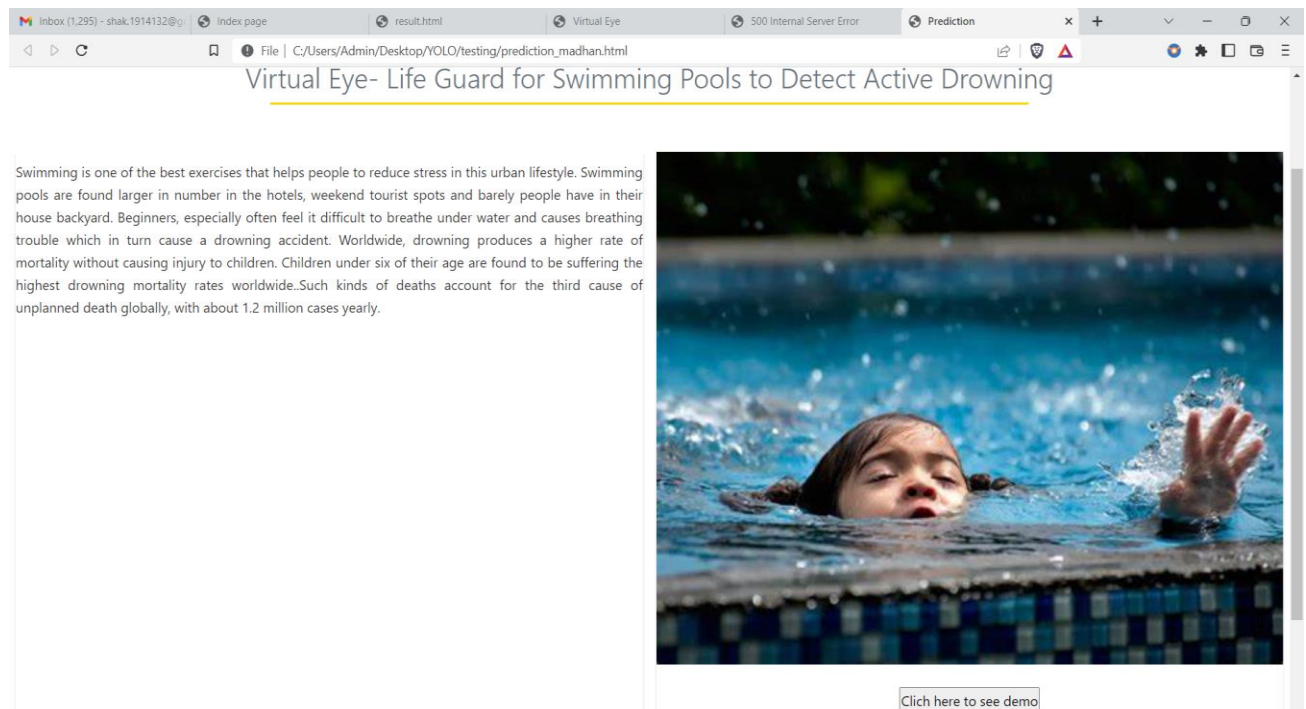
Enter the details for the registration to the virtual eye technology



While logging in you need to provide your registered credentials




After successfully login you will redirect to the prediction page where we have to click on the demo button to launch the open cv window for video analysis.



OUTPUT

Virtual Eye- Lite Guard for Swimming Pools to Detect Active Drowning

Swimming is one of the best exercises that helps people to reduce stress in this urban lifestyle. Swimming pools are found larger in number in the hotels, weekend tourist spots and barely people have in their house backyard. Beginners, especially often feel it difficult to breathe under water and causes breathing trouble which in turn cause a drowning accident. Worldwide, drowning produces a higher rate of mortality without causing injury to children. Children under six of their age are found to be suffering the highest drowning mortality rates worldwide. Such kinds of deaths account for the third cause of unplanned death globally, with about 1.2 million cases yearly.



[Click here to see demo](#)

Emergency!!The person is drowning

```
3.3050210930517305 s
bbox: [[692, -6, 1824, 1078]] centre: [1258.0, 536.0] centre0: [1267.0, 529.0]
Is he drowning: False
4.6680638790130615 s
bbox: [[681, 12, 1855, 1060]] centre: [1268.0, 536.0] centre0: [1258.0, 536.0]
Is he drowning: False
5.797983884811401 s
bbox: [[692, 6, 1854, 1070]] centre: [1273.0, 538.0] centre0: [1268.0, 536.0]
Is he drowning: False
6.924486398696899 s
bbox: [[680, 0, 1858, 1070]] centre: [1269.0, 535.0] centre0: [1273.0, 538.0]
Is he drowning: False
7.971890926361084 s
bbox: [[672, 6, 1866, 1062]] centre: [1269.0, 534.0] centre0: [1269.0, 535.0]
Is he drowning: False
9.052837371826172 s
bbox: [[676, 14, 1882, 1066]] centre: [1279.0, 540.0] centre0: [1269.0, 534.0]
Is he drowning: False
10.183572053909302 s
bbox: [[686, 22, 1876, 1062]] centre: [1281.0, 542.0] centre0: [1279.0, 540.0]
Is he drowning: True
```