

# **VirtualEye-Life Guard for Swimming Pools to Detect Active Drowning**

**TEAM ID : PNT2022TMID44696**

**TEAM MEMBERS : ELANGO VAN D (732519104006)**  
**MONAL PRATHAP S (732519104018)**  
**TAMIZHARASAN M (732519104029)**  
**KARTHIK S (732519104010)**

**DEPARTMENT : COMPUTER SCIENCE & ENGINEERING**

**COLLEGE NAME : SHREE VENKATESWARA HI-TECH ENGINEERING COLLEGE,GOBI.**

**Project Development Phase**  
**Sprint-2**

## Source code

```
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width,
initial-scale=1.0">
  <meta http-equiv="X-UA-Compatible" content="ie=edge">
  <title>High Quality Facial Recognition</title>
  <link
href="https://cdn.bootcss.com/bootstrap/4.0.0/css/bootstrap.min.
css" rel="stylesheet">
  <script
src="https://cdn.bootcss.com/popper.js/1.12.9/umd/popper.min.j
s"></script>
  <script
src="https://cdn.bootcss.com/jquery/3.3.1/jquery.min.js"></script
>
  <script
src="https://cdn.bootcss.com/bootstrap/4.0.0/js/bootstrap.min.js
"></script <link href="{ { url_for('static', filename='css/main.css') } }"
rel="stylesheet">
  <style>
    .bg-dark {
      background-color: #42678c!important;
    }
    #result {
      color: #0a1c4ed1;
    }
  </style>
</head>

<body style="background-color:black;">
  <header id="head" class="header">
    <section id="navbar">
      <h1 class="nav-heading"></i>Virtual Eye</h1>
      <div class="nav--items">
        <ul>
```

```

        <li><a href="{{ url_for('index')}}">Home</a></li>
        <li><a
href="{{ url_for('logout')}}">Logout</a></li>
        <!-- <li><a href="#about">About</a></li>
        <li><a href="#services">Services</a></li> -->

    </ul>
</div>
</section>
</header>
<div class="container">
    <div id="content" style="margin-top:2em">
        <div class="container">
            <div class="row">
                <div class="col-sm-6 bd" ><h2><em
style="color:white;">High QualityFacial
Recognition</em></h2>
                <br>
                <p><h5><i style="color:white;">Emotion
Detection Through Facial Feature Recognition</i></h5></p>
                
            </div>
            <div class="col-sm-6">
                <div>
                    <h4 style="color:white;">Upload
Image Here</h4>
                    <form action = "http://localhost:5000/"
id="upload-file" method="post" enctype="multipart/form-
data">
                        <label for="imageUpload" class="upload-
label">
                            Choose Image
                        </label><input type="file" name="image"

```

```
id="imageUpload" accept=".png, .jpg, .jpeg,.pdf">
</form>
```

```
    <div class="image-section" style="display:none;">
        <div class="img-preview">
            <div id="imagePreview">
            </div>
        </div>
        <div>
            <button type="button" class="btn
btn-info btn-lg " id="btn-predict">Analyse</button>
        </div>
    </div>
```

```
<div class="loader" style="display:none;"></div>
```

```
<h3>
    <span id="result"> </span>
</h3>
```

```
</div>
</div>
```

```
</div>
</body>
    <footer>
        <script src="{ { url_for('static', filename='js/main.js') } }"
type="text/javascript"></script>
    </footer>

</html>
</div>
</div>
</div>
```

## Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width,
initial-scale=1.0">

  <!--Bootstrap -->
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/boo
tstrap.min.css" integrity="sha384-
Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSA
wiGgFAW/dAiS6JXm" crossorigin="anonymous">
  <script src="https://code.jquery.com/jquery-
3.2.1.slim.min.js" integrity="sha384-
KJ3o2DKtIkVYIK3UENzmM7KCkRr/rE9/Qpg6aAZGJwFDM
VNA/GpGFF93hXpG5KkN"
crossorigin="anonymous"></script>
  <script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/
popper.min.js" integrity="sha384-
ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakF
PskvXusvfa0b4Q" crossorigin="anonymous"></script>
  <script
src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootst
rap.min.js" integrity="sha384-
JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjU
ar5
+76PVCmYl" crossorigin="anonymous"></script>

  <script src="https://kit.fontawesome.com/8b9cdc2059.js"
crossorigin="anonymous"></script>
  <link
href="https://fonts.googleapis.com/css2?family=Akronim&family=
Roboto&display=swap" rel="stylesheet">
```

```

<link rel="stylesheet" href="../static/style.css">
<!-- <script defer src="../static/js/main.js"></script> -->
<title>Virtual Eye</title>
</head>
<body>
  <header id="head" class="header">
    <section id="navbar">
      <h1 class="nav-heading"></i>Virtual Eye</h1>
      <div class="nav--items">
        <ul>
          <li><a
            href="{{
url_for('index')}}">Home</a></li>
          <li><a
            href="{{
url_for('login')}}">Login</a></li>
          <li><a
            href="{{
url_for('register')}}">Register</a></li>
          <li><a href="{{ { url_for('login') }}">Demo</a></li>
        </ul>
      </div>
    </section>
    <section id="slider">
      <div id="carouselExampleIndicators" class="carousel"
data-ride="carousel">
        <ol class="carousel-indicators ">
          <li data-target="#carouselExampleIndicators" data-
slide-to="0" class="active "></li>
          <li data-target="#carouselExampleIndicators" data-
slide-to="1"></li>
          <li data-target="#carouselExampleIndicators" data-
slide-to="2"></li>
        </ol>
        <div class="carousel-inner">
          <div class="carousel-item active">
            

```

```

    </div>
    <div class="carousel-item">
        
    </div>
    <div class="carousel-item">
        
    </div>
</div>
<a class="carousel-control-prev"
href="#carouselExampleIndicators" role="button"
data-slide="prev">
    <span class="carousel-control-prev-icon"
aria-hidden="true"></span>
    <span class="sr-only">Previous</span>
</a>
<a class="carousel-control-next"
href="#carouselExampleIndicators" role="button"
data-slide="next">
    <span class="carousel-control-next-icon"
aria-hidden="true"></span>
    <span class="sr-only">Next</span>
</a>
</div>

```

```

</section>
</header>
<section id="about">
    <div class="top">
        <h3 class="title text-muted">
            ABOUT PROJECT
        </h3>
        <div class="line"></div>
    </div>
<div class="body">
<div class="left">
    <h2>Problem:</h2>

```

<p>

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.

</p>

</div>

<div class="left">

<h2>Solution:</h2>

<p>

To overcome the conflict, a meticulous system is to be implemented along the swimming pools to save the human life. By studying body movement patterns and connecting cameras to an artificial intelligence (AI) system we can devise an underwater pool safety system that reduces the risk of drowning. Usually such systems can be developed by installing more than 16 cameras underwater and ceiling and analysing the video feeds to detect any anomalies . but AS a POC we make use of one camera that streams the video underwater and analyses the position of swimmers to assess the probability of drowning ,if it is higher than an alert will be generated to attract lifeguards attention.

</p>

</div>

</div>

<div class="bottom">

<p ><b>

Note : The system is not designed to replace a lifeguard or other human monitor, but to act as an additional tool. It helps the lifeguard to detect the underwater situation where they can easily observe.</b></p>



</div>  
</section>  
n>

<section id="footer">  
 <p>Copyright Â© 2022. All Rights Reserved</p>  
 <div class="social">  
 <a href="#" target="\_blank"><i class="fab fa-2x fa-twitter-square"></i></a>  
 <a href="#" target="\_blank">  
 <i class="fab fa-2x fa-linkedin"></i></a>  
 <a href="#">  
 <i class="#"></i>  
 </a>  
</div>  
</section>  
</body>  
</html>

## Logout.html

```
<!DOCTYPE html>
```

```
<html >
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <meta name="viewport" content="width=device-width,  
initial-scale=1">
```

```
  <title>Virtual Eye</title>
```

```
  <link href='https://fonts.googleapis.com/css?family=Pacifico'  
rel='stylesheet' type='text/css'>
```

```
  <link href='https://fonts.googleapis.com/css?family=Arimo'  
rel='stylesheet' type='text/css'>
```

```
  <link href='https://fonts.googleapis.com/css?family=Hind:300'  
rel='stylesheet' type='text/css'>
```

```
  <link
```

```
href='https://fonts.googleapis.com/css?family=Open+Sans+Conde  
nsed:300' rel='stylesheet' type='text/css'>
```

```
  <link
```

```
href='https://fonts.googleapis.com/css?family=Merriweather'  
rel='stylesheet'>
```

```
  <link href='https://fonts.googleapis.com/css?family=Josefin  
Sans' rel='stylesheet'>
```

```
  <link href='https://fonts.googleapis.com/css?family=Montserrat'  
rel='stylesheet'>
```

```
<style>
```

```
.header {
```

```
    top:0;
```

```
    margin:0px;
```

```

        left: 0px;
        right: 0px;
        position: fixed;
        background-color:
        #28272c;color: white;
        box-shadow: 0px 8px 4px
        grey;overflow: hidden;
        padding-left:20px;
        font-family: 'Josefin
        Sans';font-size: 2vw;
        width:
        100%;
        height:8%
        ;
        text-align: center;
    }
    .topnav {
    overflow: hidden;
    background-color:
    #333;
    }

    .topnav-right
    a { float:
    left; color:
    #f2f2f2;
    text-align: center;
    padding: 14px
    16px; text-
    decoration: none;
    font-size: 18px;
    }

    .topnav-right a:hover {
    background-color:
    #ddd;color: black;
    }

```

```
.topnav-right a.active {  
  background-color:  
  #565961;color: white;  
}
```

```
.topnav-  
right {  
  float:  
  right;  
  padding-right:100px;  
}
```

```
.login{  
margin-top:-70px;  
}  
body {
```

```
  background-color:#ffffff;  
  background-repeat: no-  
  repeat;background-  
  size:cover; background-  
  position: 0px 0px;  
}
```

```
.main{  
  margin-  
  top:100px;text-  
  align:center;  
}
```

```
form { margin-left:400px;margin-right:400px;}
```

```
input[type=text],  
input[type=email],input[type=number],input[type=password]  
{ width: 100%;  
  padding: 12px  
  20px; display:  
  inline-block;  
  margin-  
  bottom:18px;  
  border: 1px solid  
  #ccc;
```

```
    box-sizing: border-box;
}
```

```
button {
    background-color:
    #28272c;color: white;
    padding: 14px
    20px;margin-
    bottom:8px;
    border: none;
    cursor: pointer;
    width: 20%;
}
```

```
button:hove
    r { opacity:
    0.8;
}
```

```
.cancelbtn
{ width:
    auto;
    padding: 10px 18px;
    background-color:
    #f44336;
}
```

```
.imgcontainer {
    text-align:
    center;
    margin: 24px 0 12px 0;
}
```

```
img.avatar {
    width: 30%;
    border-radius: 50%;
}
```

```

.container {
  padding:
  16px;
}

span.psw {
  float: right;
  padding-top: 16px;
}

/* Change styles for span and cancel button on extra small screens
*/
@media screen and (max-width:
300px) { span.psw {
  display:
  block;float:
  none;
}
.cancelbtn {
  width:
  100%;
}
}

</style>
</head>

<body style="font-family:Montserrat;">

<div class="header">
  <div style="width:50%;float:left;font-size:2vw;text-
align:left;color:white; padding-top:1%">Virtual eye</div>
  <div class="topnav-right" style="padding-top:0.5%;">

    <a href="{ { url_for('home') } }">Home</a>

```

```
<a href="{{ url_for('login')}}">Login</a>
<a href="{{ url_for('register')}}">Register</a>
</div>
</div>
<div class="main">
<h1>Successfully Logged Out!</h1>
<h3 style="color:#4CAF50">Login for more information</h3>

    <a href="{{ url_for('login')
    }}"><button
type="submit">Login</button></a>
</form>
</div>

</body>
</html>
```

## Prediction.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width,
initial-scale=1.0">
  <!--Bootstrap -->
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/boo
tstrap.min.css" integrity="sha384-
Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGg
FAW/dAiS6JXm" crossorigin="anonymous">
  <script src="https://code.jquery.com/jquery-
3.2.1.slim.min.js" integrity="sha384-
KJ3o2DKtIkVYIK3UENzmM7KChRr/rE9/Qpg6aAZGJwFDMVNA/
GpGFF93hXpG5KkN" crossorigin="anonymous"></script>
  <script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/
popper.min.js" integrity="sha384-
ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakF
PskvXusvfa0b4Q" crossorigin="anonymous"></script>
  <script
src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootst
rap.min.js" integrity="sha384-
JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjU
ar5
+76PVCmYI" crossorigin="anonymous"></script>

  <script src="https://kit.fontawesome.com/8b9cdc2059.js"
crossorigin="anonymous"></script>
  <link
href="https://fonts.googleapis.com/css2?family=Akronim&family=
Roboto&display=swap" rel="stylesheet">
  <link rel="stylesheet" href=" ../static/style.css">
```



```

<script defer src="../static/js/JScript.js"></script>
<title>Prediction</title>
</head>
<body>
  <header id="head" class="header">
    <section id="navbar">
      <h1 class="nav-heading"></i>Virtual Eye</h1>
      <div class="nav--items">
        <ul>
          <li><a href="{ { url_for('index') } }">Home</a></li>
          <li><a
href="{ { url_for('logout') } }">Logout</a></li>
          <!-- <li><a href="#about">About</a></li>
          <li><a href="#services">Services</a></li> -->

        </ul>
      </div>
    </section>
  </header>
  <!-- dataset/Training/metal/metal326.jpg -->
  </br>
  <section id="prediction">
    <h2 class="title text-muted">Virtual Eye- Life Guard for
Swimming Pools to Detect Active Drowning</h1>
    <div class="line" style="width: 900px;"></div>
  </section>
  </br>
  <section id="about">

<div class="body">
<div class="left">

```

<p>

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.</p>

</div>

<div class="left">

<div class="prediction-input">



</br>

<form id="form" action="/result"  
method="post" enctype="multipart/form-data">  
<input type="submit" class="submitbtn"  
value="ClickMe! For a Demo">

</form>

</div>

<h5 style="text-color:Red">

<b style="text-color:Red">{ {prediction} }<b>

</h5>

</div>

</div>

</section>

</br></br>

<section id="footer">

<p>Copyright Â© 2021. All Rights Reserved</p>

</section>

</body>

</html>