**VirtualEye - Life Guard For Swimming Pools To Detect Active Drowning**

**Team ID : PNT2022TMID40735**

**Prior Knowledge**

**One should have knowledge of the following Concepts:**

* YOLO v3
* Flask

**YOLO v3:**

* Setting up and Installing Dependencies using ANACONDA.
* Downloading and Converting YOLOv3 weights into TensorFlow model files.
* How to run detections in real-time on webcam and video.

**Flask:**

* Flask is a web application framework written in Python
* Flask is based on Werkzeug, WSGI toolkit and Jinja2 template engine. Both are Pocco projects.

**Werkzeug:**

It is a WSGI toolkit, which implements requests, response objects, and other utility functions. This enables building a web framework on top of it. The Flask framework uses Werkzeug as one of its bases.

**WSGI:**

Web Server Gateway Interface (WSGI) has been adopted as a standard for Python web application development. WSGI is a specification for a universal interface between the web server and the web applications.

**Jinja2:**

Jinja2 is a popular templating engine for Python. A web templating system combines a template with a certain data source to render dynamic web pages.

**Install virtualenv for development environment:**

**virtualenv** is a virtual Python environment builder. It helps a user to create multiple Python environments side-by-side.

* Install virtualenv.
* pip install virtualenv
* Once install new virtural environment is created in new folder. mkdir newproj
* cd newproj virtualenv venv
* On windows, to active. venv\scripts\activate
* Now we can install flask. pip install Flask