**PROJECT DESIGN PHASE -1**

***PROPOSED S0LUTION:***

**INTRODUCTION:**

* **This project provides the insights of a real-time video surveillance system capable of automatically detecting drowning incidents in a swimming pool.**
* **Drowning is the 3rd reason for the highest unintentional deaths, and that’s why it is necessary to create trustable security mechanisms.**
* **Currently most of the swimming pools security mechanisms include CCTV surveillance and lifeguard to help in drowning situations.**

**PROBLEM STATEMENT:**

* **But this method is not enough for huge swimming pools like in amusement parks.**
* **Nowadays some of the security systems are using AI for drowning detection using cameras situated underwater at a fixed location and also by using floating boards having a camera mounted on the bottom side so that underwater view can be captured.**
* **But the main problems in these systems arise when the pool is crowed and vision of cameras is blocked by people**
* **In this project rather using underwater cameras situated on top of the swimming pool to get an upper view of the swimming pool so that entire swimming pool will be under surveillance all time.**
* **Once we have the working drowning detection model can feed live video footage of the swimming pool to it so that it can keep detecting continuously for any drowning activities.**

**SOLUTION DESCRIPTION:**

* **By studying body movement patterns &connecting cameras to “ARTIFICIAL INTELLIGENCE” systems we can devise an underwater pool safety system that reduces the risk of drowning.**
* **AS a POC we make use of one camera that streams the video underwater and analyses the position of swimmers to access probability of drowning.**
* **The system is not designed to replace a lifeguard or other human monitor, but to act as an additional tool.**

**SOCIAL IMPACT:**

* **Drowning detection system increases response time as they the correct people in order to save the drowned people.**
* **Thus reduce the amount of death rate of drowning.**
* **By detecting the action quickly and accurately and providing early warning notification can limit the death rate of drowning people inside the swimming pools.**

**CONCLUSION:**

* **Once we have the working drowning detection model we can feed live video footage of the swimming pool to it so that it can keep detecting continuously for any drowning activities.**
* **A feedback system can also be included which provides the state of device to the remote users.**