## 1. CUSTOMER SEGMENT(S)

• Person who Swim in the swimming pool are to be constantly kept an eye over them by visual based monitoring system.

The main customers are:

- Life Guards hired at the swimming
- Private Swimming pool owners.

6. CUSTOMER



- Customer network connection.
- Camera misunderstanding normal swimming actions to be abnormal.
- Cost of fitting and maintenance.

## 5. AVAILABLE SOLUTIONS

AS

- Detects and prevents active drowning.
- Prediction process takes place only after drowning but proposed solution uses Deep Learning Algorithm for detection so that there is a change for detecting drowning accident at earlier.

**Pros:** Detect before the subject has completely drowned.

Cons: If the video feed is broken or obstructed it does not give a result.

## 2. JOBS-TO-BE-DONE / **PROBLEMS**

J&P

- Detect potential drowning subjects in the swimming pool.
- Existing visual based monitoring system are too economical and these are needed to environment.

9. PROBLEM ROOT CAUSE



- Life guard is alerted only when a person has partially/ completed drowned. People think that the camera that is set
- up to monitor the persons who are swimming are of no proper and accurate

7. BEHAVIOUR

BE

Saving people's life.

8. CHANNELS of BEHAVIOUR

- The customer will exhibit his behavior until an authenticated application serves its purpose rightly.
- Taking efficiency action in case of an emergency.

3. TRIGGERS



- The customer was triggered by their surroundings talking about this approach of detecting and preventing active drowning.
- Potential subject drowning match in the video frame based on the sample image the model is trained on.

4. EMOTIONS: BEFORE / AFTER



## **Before:**

Fear of unprotected swimming.

After:

Fearless and satisfactory swimming experiences.

**10. YOUR SOLUTION** 



- The model uses advanced YOLO v5 Algorithm to detect potential drowning subjects which yields higher accuracy and performance compared to existing solution.
- The proposed system makes a novel attempt to evaluate swimmer condition by analyzing their motion and shape features via visual based monitoring device and an alarm to alert and provides solution in detecting drowning incidents.

**ONLINE:** 

• Monitoring active swimmers via web application.

**OFFLINE:** 

• Be on the look for potential drowning and responding to emergencies.

Explore AS, differentiate