# 1. CUSTOMER SEGMENT(S) • Person who Swim in

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

The main customers are:

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

monitoring system.

#### 6. CUSTOMER

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

• Customer network connection.

#### 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

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- 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

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

## 7. BEHAVIOUR

BE

- Saving people's life.
- 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

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#### **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.

# 8. CHANNELS of BEHAVIOUR

#### **ONLINE:**

• Monitoring active swimmers via web application.

#### **OFFLINE:**

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

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Explore AS, differentiate