

## PROJECT OBJECTIVES

Drowning in swimming pool occurs maximum to the age of people between 1 to 15 years. The drowning happens because of not learning to swim properly and not taking safety measures. The person who drowns can be identified using virtual eye. Virtual eye will be done using YOLO-based Convolutional Neural Network family of models for object detection and the new variant of this type is called YOLOv3.

We need to detect the activities of the object using object detection. Object detection is the process of computer vision task that involves both localizing one or more objects within an image and classifying each object in the image. Identifying each object in an image and drawing a bounding box around it is a difficult computer vision task that also calls for accurate object classification to identify the right class of the localized object. The method uses a single deep convolutional neural network (initially a GoogLeNet variant, then upgraded and dubbed DarkNet based on VGG) that divides the input into a grid of cells and predicts a bounding box and an item categorization for each cell individually. As a result, there are lots of potential bounding boxes, which are then combined into one final forecast during post-processing.

By the following data files one can detect the active drowning. Once detected alarm helps to warn the surrounding.