LITERATURE SURVEY

S.NO	TITLE	AUTHOR	METHOD/APPROACH	ADVANTAGES	DISADVANTAGES	YEAR
1	Deep Learning Used to Recognition Swimmers Drowning	Jia-Xian Jian, Chuin-Mu Wang	Using image processing technology to introduce artificial intelligence motion technology,mounting the camera on the bottom of the swimming pool, and use OpenPose to mark the image joint point features, and input the captured joint point features into the recursive neural network to determine whether the swimmer is drowning..	The final training result is about 89.4% accurate, so it can be used to assist on-site lifeguards to detect swimmers who may be drowning,	Too much air bubbles generated by the drowning swimmer in the water will also occur. There is a chance that the action cannot be captured by the computer	2021
2	Computer Vision Enabled Drowning Detection System	U. Handalage, N. Nikapotha, C. Subasinghe, T. Prasanga, T. Thilakarthna and D. Kasthurirathna	Using convolutional neural network (CNN) models, it can detect a drowning person in three stages(drowning detection, the rescuing drone, and the hazardous activity detection). Whenever such a situation like this is detected, the inflatable tube-mounted selfdriven drone will go on a rescue mission, sounding an alarm to inform the nearby lifeguards.	Identifies drowning victims in a minimum amount of time and dispatches an automated drone to save them	Confined with a few of the hardware limitations, such as the use of a single camera and the Jetson Nano at the presence of better-quality hardware, could affect the speed and accuracy of the overall system.	2021
3	Automated Vision-based Surveillance System to Detect Drowning Incidents in Swimming Pools	Abdel Ilah N. Alshbatat, Shamma Alhameli, Shamsa Almazrouei, Salama Alhameli, Wadhha Almarar	The system consists of a Raspberry Pi with the Raspbian operating system,a Pixy camera, an Arduino Nano board, stepper motors, an alarm system, and motor drivers. The proposed system is based on the color-based algorithm to position and rescue swimmers who are	The model not only detects drowning but also tracks the swimmers.The system performed well during several experiments carried	There is no proof that this system will work in any pool.This system is customly built for a particular environment.And the	2020

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			drowning. The device then sends an alarm to the lifeguards.	out in the laboratory.	effectiveness of the model is not tested in any new environment.	
4	Identification of Drowning Victims in Freshwater Bodies using Drift Prediction and Image Processing based on Deep Learning	Anjana Unnikrishnan, Roshni A T, Anusha P R, Anju M Vinny, Anuraj C K	Using multiple sensor data in underwater human rescue detection system to spot drifting and drowning person in a natural water eco system. The water flow sensor which is attached to the portable device calculates the drift distance and tracks drowning person.	The Approach detected human drifting and drowning up to a range of 5m in water bodies. The final result achieved an average of 82.10% accuracy.	The performance of the model depends on the nature of the water body concerned as the drift distance is different for different water eco systems.	2022