Drowning Detection System using LRCN Approach

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LITERATURE SURVEY

This section aims to identify and discuss the lacunae and similarities respectively, in some of the previous works related to drowning detection systems.Lei Fei, Wang Xueli, Chen Dongsheng, proposed a background subtraction method for drowning detection and swimmer identification using visual surveillance in their research paper. This method fails to reflect real background accurately thus restricting model accurate shape detection of moving objects. It also fails to reflect sudden background changes. Ajil Roy, Dr. K. Srinivasan, proposed drowning detection using RFID-based swimming goggles, however, this model also fails to overcome the limitation of accuracy since the water sensor is not placed very close to the mouth and nose. But this model successfully overcomes limitations of video surveillance-based drowning detection systems like the need for high power computing devices.Chi Zhang, Xiaoguang Li, Fei Lei, proposed —A Novel Camera-Based Drowning Detection Algorithm‖ using input video sequences obtained from underwater cameras. In this case, to detect drowning swimmers an implementable real-time detection system with high accuracy will be needed.

RESULT AND DISCUSSION

The outputs achieved will predict the class names for a batch of frames of the videos given as input. The predicted class name
having the highest probabilities will be detected as the action being performed in the swimming pool.

1) The predicted class name having maximum probability can be displayed as the confidence variable.

2) After the successful completion of the project, one can:

3) Observe the video surveillance and rely on the drowning detection system.
4) An alarm will be raised if someone is detected as drowning.
5) Drowning preventive measures can be performed due to early alerts raised by the system.
6) The project should examine the actions performed by swimmers to detect drowning more accurately.

FUTURE SCOPE

Availability of better dataset, modern methodologies, and technologies with high computational power accompanied by high-quality surveillance cameras, will help to improve the accuracy of drowning detection & even can be used in adverse conditions. After the implementation of all these essentials, this system also can be used on sea beaches for drowning detection.

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. If drowning is detected it will be highlighted on the system screen as well as alarms will be raised to alert security guards so that they can initiate rescue

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