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Deep learning and vision-based early drowning detection

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Drowning is one of the top five causes of death for children aged 1–14 worldwide. According to data from the World Health Organization (WHO), drowning is the third most common reason for unintentional fatalities. Designing a drowning detection system is becoming increasingly necessary in order to ensure the safety of swimmers, particularly children. This paper presents a computer vision and deep learning-based early drowning detection approach. We utilized five convolutional neural network models and trained them on our data. These models are SqueezeNet, Google Net, Alex Net, ShuffleNet, and ResNet50. ResNet50 showed the best performance, as it achieved 100% prediction accuracy with a reasonable training time. When compared to other approaches, the proposed approach performed exceptionally well in terms of prediction accuracy and computational cost.

Biography

Frdoos Albreiki is an electrical engineer 22 years old that's always showing her interests in reading different research for different topics. Published this research which provide a solution that solve large problem which is drowning. This problem is not only in one country or in one region, but the whole world also no matter how the country is developed still face it. Fardoos preparing to publish second paper about drowning detection systems that other doctors found and what are the disadvantages, and advantages of these systems. Finally, fardoos hoping that at the end of each year, she will be able to publish 2 papers.