An Eye Blink detection technique in video surveillance based on Eye Aspect Ratio

Tran Thanh Phuong*, Lam Thanh Hien*, Do Nang Toan**, Ngo Duc Vinh***

*Lac Hong University, Vietnam

** Intitute of Information Technology, Vietnam Academy of Science and Technology, Vietnam ***Hanoi University of Industry, Vietnam

thanhphuong@lhu.edu.vn, lthien@lhu.edu.vn, donangtoan@gmail.com, ngoducvinh@haui.edu.vn

Abstract—Detecting the open/closed state of the eyes is an important step in determining the state of the face in applications related to human facial expressions. This report deals with an eye open/closed detection technique based on the variation of the ratio rectangle surrounding the eye. The technique has been tested and proven effective in determining sleepiness based on images.

Keyword- Eye detection, eye state recognition, eye blink detection



Tran Thanh Phuong received his Master of IT in 2008 at Lac Hong University. Currently, he is a lecturer at Information Technology of Lac Hong University. His research interests involve computer vision, image processing and machine learning.



Lam Thanh Hien received the MSc. Degree in Applied Informatics Technology in 2004 from INNOTECH Institute, France, and his PhD in 2017 at Vietnam Academy of Science and Technology. Currently, he is a rector of Lac Hong University. His research interests involve computer vision, image processing and machine learning.



Do Nang Toan is an Associate Professor at the Institute of Information Technology - Vietnam Academy of Science and Technology. He received BSc. Degree in Applied Mathematics and Informatics in 1990 from Hanoi University, and PhD in Computer Science in 2001 from Vietnam Academy of Science and Technology. His main research interests are Pattern recognition, Image processing and Virtual reality.



Ngo Duc Vinh received his Master of IT in 2006 from the Military Technical Academy, and his PhD in 2016 at the Graduate University of Science and Technology, Vietnam Academy of Science and Technology. Currently, he is a lecturer at Hanoi University of Industry. His research interests involve computer vision, image processing and machine learning.