

Investigating the use of eye fixation data for emotion classification in VR

ABSTRACT

Eye-tracking technology has become popular recently and widely used in research on emotion recognition since its usability. In this paper, we presented a preliminary investigation on a novelty approach for detecting emotions using eyetracking data in virtual reality (VR) to classify 4-quadrant of emotions according to russell'scircumplex model of affects. A presentation of 3600 videos is used as the experiment stimuli to evoke the emotions of the user in VR. An add-on eye-tracker within the VR headset is used for the recording and collecting device of eye-tracking data. Fixation data is extracted and chosen as the eye feature used in this investigation. The machine learning classifier is support vector machine (SVM) with radial basis function (RBF) kernel. The best classification accuracy achieved is 69.23%. The findings showed that emotion classification using fixation data has promising results in the prediction accuracy from a four-class random classification.