FACE-RECOGNITION BILLBOARD DISPLAY TO TARGET ADVERTISEMENT WITH GENDER AND AGE RECOGNIZING

G.W.I.R. Fonseka* and H.M.M. Naleer

Department of Mathematical Sciences, Faculty of Applied Sciences, South Eastern University of Sri Lanka, Sammanthurai.
Corresponding Author Email: isharaoshan51@gmail.com

Businesses in the world choose to use advertisements as a way to improve their visibility. However, most of these advertisements are relevant to some people. In the business world, some advertisements are targeting specific segments in society such as gender wise, geographical wise, age wise etc. or all the segments. Most of the time those advertisements are never displayed separately to the targeting segments. The research problem has been identified in the field of marketing the products to the people in an effective way. If the advertisements that are visible in Digital advertisement boards in towns, such as at bus stops, at the train station, can be visible only for those who look at the billboard. Then the value of the advertisement is further increased. Then we can increase the number of people who are attracted to the advertisement. This research paper gives a real time intelligent system for targeted advertising systems. In this paper, we propose a method to solve the above problem using face detection. In this method capture the images from real time video streams captured by web camera or IP camera and identify multiple frontal facial and process facial feature points using robust formalization containing a mouth, a nose, two eyes, etc. Then after identifying gender and age of a face by using the Facial Attribute function and calculate a number of faces. Now we are given an algorithm to select an advertisement from simple databases and create an advertisement queue using the identified gender and age. Most of the age detection systems are not more accurate. So we used the age group to group the advertisement. In this system, gender recognition has 94% accuracy and age recognition has 96% accuracy. Energy wastage has also been identified when none of the people are watching these advertisements. Therefore, a solution is introduced to save energy as well. This paper given an AI base targeted advertising system that provides a good advertising experience for advertising.

Keywords: Advertisements, Advertisement Boards, Intelligent System, Face Detection, Video Stream, Energy Wastage