

Researcher develops image processing system that detects moods

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Who knows what evil lurks in the hearts of men? Dr. Prabir Bhattacharya and his computers might. He and Concordia graduate student Abu Sayeed Sohail are developing a computer image processing system that detects and classifies human facial expressions.

The aim of this system is to take and analyze photos of individuals, potentially in areas of high traffic where security is a primary concern, such as an airport. If one could take random photos of the crowd and process them fast enough, there is the potential to identify those individuals who might be problematic.

Facial expressions do not actually involve the entire face, but rather specific sets of muscles under the face near the eyes, nose and mouth. Bhattacharya and Sohail's system measures 15 key points on the face and then compares these measures against images of identifiable facial expressions. Although there is great variety in expression across both individuals and cultures, the pair has identified seven basic expressions that seem to be relatively universal.

The results of their research to date were recently published by Verlag Dr. Müller in *Classification of Human Facial Expression: A Prospective Application of Image Processing and Machine Learning*.

Source: Concordia University

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