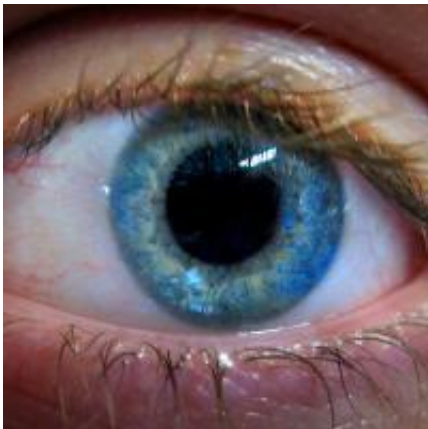


## UB team's software is set to eyeball liars

March 8 2012, by Nancy Owano

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(PhysOrg.com) -- A study team at the University of Buffalo, State University of New York, is working on video analysis software to analyze eye movements to spot liars. So far, they say their results show that their software can spot liars with a promising level of accuracy. Their claim is based on their study using 40 people. Their system correctly identified who was telling the truth and who was lying 82.5 percent of the time.

“What we wanted to understand was whether there are signal changes emitted by people when they are lying, and can machines detect them? The answer was yes, and yes,” Ifeoma Nwogu, a co-author of the study and professor at the Center for Unified Biometrics and Sensors, told the [UB Reporter](#).

According to a [report](#) in *Scientific American*, their work was inspired by findings from a professor of psychology at the University of California in San Francisco, School of Medicine, Paul Ekman. He has focused on emotions as they relate to facial expressions.

As for interrogators themselves, their experiences indicate that the use of such software for telling who is lying and who is telling the truth would not be practical in all instances and may not always lead them to the right targets. Just as polygraphs have drawn controversy over how reliable they really are, face-detection tools might also generate its share of false positives.

Undaunted, the researchers last year presented their study results at the 2011 IEEE International Conference on Automatic Face and Gesture Recognition and now they are set to broaden their investigations to account for body language too.

Also, said Nwogu, faster algorithms may raise the [software](#)'s ability to spot behavioral deviations in near real-time. The system that they are using tracks [eye movements](#) using a statistical technique that models the movements. Nwogu and others on the team, in the course of their 40 interviews, used the beginning of each interview to establish what normal, baseline eye movements looked like for each subject. The team focused on such details as the rate of blinking and the frequency with which people shifted the direction of their gaze. The researchers then used their system to compare each subject's baseline eye movements with eye movements during the critical section of each interrogation.

Another goal as they continue their research is to expand the sample size. They used a sampling of 40 people, which they said was too small to be statistically significant.

Other researchers involved in this study include Nisha Bhaskaran, Venu

Govindaraju, and Mark Frank, a professor of communication and behavioral scientist.

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