

EPFL: Personality tests via YouTube

Scientists of the Swiss Federal Institute of Technology in Lausanne (EPFL) want to detect personality traits of video bloggers on YouTube. Thereby, they also use automatic speech recognition.

By Mark Schröder , 17.01.2014 11:30.

Image caption: (Swiss Researchers determine personality traits of bloggers on YouTube)

Bloggers would on the first hand be assigned the personality trait of being extraverted. Blogs and social media provide an ideal platform for people who like to speak up actively and publicly, for people who like to exhibit their opinions as well as looking for interaction. Groups of scientists at the Swiss Federal Institute of Technology in Lausanne (EPFL) and the Idiap Research Institute in Martigny are currently performing research in social media. In a research report, the team of Daniel Gatica-Perez and Joan-Isaac Biel formulated the hypothesis that movements and utterances by video bloggers can provide conclusions on their personality traits.

In personality psychology the so-called five-factor-model (or the 'big five') has been established for decades. The model is based on the assumption that the personality of a human can be ordered into five main dimensions: extraversion, conscientiousness, neuroticism, openness to experience and agreeableness.

Primarily, the researchers in Lausanne use the model in order to build a personality profile of each video blogger, based on their nonverbal behavior. Their test considered 211 female and 197 male bloggers. The total 408 personality profiles were determined in a crowd-sourcing project: the dimension that was most predictive was the one of 'extraversion' - as the ostensible impression would suggest. But also the four other personality traits could well be identified via the videos. These results were the basis for further tests.

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The analysis of verbal utterances for the creation of a personality profile has not vastly been examined in the past. For their investigation, the researchers in Lausanne used transcripts of the utterances of the bloggers along with computer-based speech recognition methods.

Image caption: (At the Idiap Research Institute in Martigny, the characteristics of social media are being studied.)

In the transcribed video blogs, Gatica-Perez and his team were able to find four out of the five personality traits that have been determined in previous studies.

The verbal utterances were by themselves more useful for determining the traits than the pure (nonverbal) behaviors of the video-bloggers. Only for the 'openness to experience' trait, the test values of the preliminary study did not match with the data from the verbal utterances. Automatic speech recognition, however, did not provide valuable results

for examining personality traits of the video bloggers. Colloquial language was one of the main obstacles during the processing. One of the best identifiable traits was the one of 'agreeableness'. In personality psychology, 'agreeable' humans are described as being altruistic and eager to help - which is not obvious for video bloggers.

For the EPFL scientists it is clear that the combination of non-verbal and verbal behavior provides better predictors for personality traits than gestures and facial expressions. Previous research focused on questionnaires and non-verbal behavior because there is a lot of effort in transcribing utterances. Automatic speech recognition is not very useful up to now, as its results are not significant. Gatica-Perez and his colleagues suggest that instead of pure speech recognition, one should rather try processing of signal words with computer-aided methods. Thereby, the five personality traits could likely be identified more reliably.

Translation courtesy: Thomas Meyer