# Face It!

Reading human facial cues.

By Shonan Noronha, EdD

Audience measurement is the constant mantra of brand marketers and data analytics solution providers. Although there are numerous platforms for Big Data analysis, only a few now feature algorithms for analyzing human reactions to digital signage content with the use of a video camera to capture viewer responses. Artificial intelligence and other emerging technologies are making it possible to analyze the viewer's age, gender, attention span and even emotional reactions. These advanced systems can be programmed to respond to the viewer appropriately, even personalizing content.

Many retailers and advertisers are excited about the potential of these new technologies, but some hesitate to use them due to privacy concerns. Although some futurists propagate the notion that the word "privacy" is no longer relevant, it may take many years before this is widely accepted. The main issue, however, is a lack of understanding of how "facial detection" and "facial recognition" platforms differ. That's why it is necessary for system designers and integrators to be able to articulate the differences to their clients, explaining the benefits and dispelling their fears.

Some of the nuance lies in the marketing literature of data analytics platforms, which use terms such as *emotion-sensing, audience-aware* or *mood-estimator.* When Intel started marketing its Audience Impression Metric Suite years ago, it made it clear that the platform "anonymously" counted viewers and analyzed them by gender and
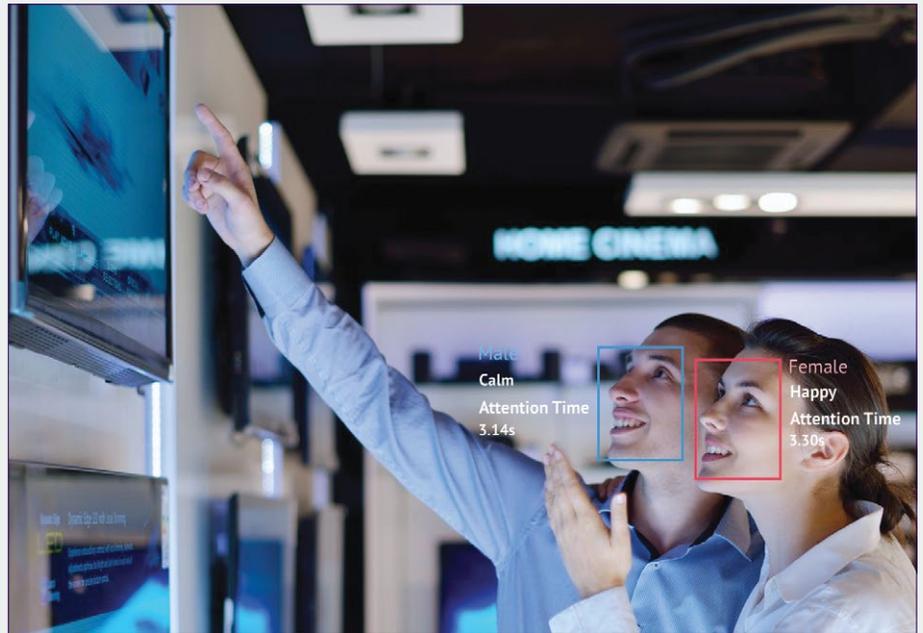
Signage systems using AI and video cameras enable emotion and demographic-based analytics.

AdMobilize/Cathy Yeulet©123RF.com

age range, in real time. Other data metrics system providers in the digital signage market also emphasize the anonymity of viewers captured by the camera. In recent years, AdMobilize, Affectiva and Quividi have been among the companies that offer "intelligent" platforms, and also provide descriptions of the "classifiers" that distinguish their solutions.

Jerry Reese, VP of Sales for Creative Realities, a digital solutions integration firm that tests available solutions before making recommendations to clients, said, in a phone interview, "Our role is to help our clients understand the full capabilities and the limitations of the system prior to deployment. It is an exercise in educating them on the differences, for example, between face detection and face recognition." Reese also cautioned that, "Some Anonymous Video Analytics (AVA) metrics have inherent accuracy limitations, such as measurements of emotion and mood. Therefore, we ensure our clients understand that such data can provide an indication of patterns and be used to guide content decisions, but should not be used as an absolute metric for individual persons."

With regard to privacy concerns, Reese noted, "In today's world, there is a broader acceptance of cameras in public spaces, including, for example, the numerous security cameras all around us." In general, people are more willing to divulge personal data in return for rewards or the information they are seeking.

Michael Neel, Head of Marketing/Sales for AdMobilize, noted, "Although we have both face-detection and face-recognition platforms, we currently do not deploy the face-recognition solution in any retail environment. If deployed, it would be 100% 'opted-in,' such as in loyalty programs. Our face detection is anonymous data collection about an audience using face-detection algorithms powered by our computer vision software. Data collected includes attention time, demographics and emotion analysis from images or video."

Discussing criteria for selection of a data analytics platform for retail, Reese said, "Whether the AVA application is software only or embedded within proprietary hardware, we rigorously test the complete AVA system for performance and reliability across a range of situations prior to deployment. We also assess the accuracy and

granularity of the AVA data elements, whether it is real-time reporting or recorded and locally stored. And, of course, compatibility with the rest of the digital ecosystem components is a factor, as are CapEx [Capital Expenditure] and subscription costs."

Among its many projects, Creative Realties (CRI) recently deployed the AdMobilize platform at an apparel retailer's flagship store in New York City. Although CRI has integrated AdMobilize's AdBeacon for image capture in the past, it used Logitech cameras for this project. "The option of using either the integrated device or separate standard hardware components offers several benefits, including customization and scalability," noted Reese.

The brave new world of emotionally and demographically responsive signage is sure to have many interesting twists and turns. Stakeholders will have to weigh the benefits of personalized content delivery with privacy concerns and other issues. Content creators will also have to adjust to the needs of more personal messaging, moderating the degree of interactivity to reduce costs, and to avoid turning off viewers with info that is too tightly targeted.

As the science of reading human cues evolves, new products will be introduced with even more amazing capabilities. Not only will AI response systems be more personal and personable, predictive crowd-emotion analytics will let advertisers address their messages to audiences predisposed to accept them at that particular time and place.

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