

Artificial Intelligence: Concerned About Facial Recognition AI? What About Behavior Recognition Software?

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A young woman picks up and compares juices in a store aisle. She's 29. She spends 40 minutes on average shopping and likes orange juice. That's not all: She usually spends 2,500 yen per visit to the store.

The Japanese startup Vaak's software knows a lot about the woman in a white shirt.

Most importantly, it knows that there is only a 4 percent chance of her doing something such as shoplifting.

Vaak is one of a growing number of companies across the globe developing AI-powered surveillance technology that analyzes body language to judge whether someone is behaving in a suspicious manner. (The technology also has important applications for autonomous cars; those systems need to know, for instance, what the intent of someone standing on a street corner is.)

But many companies envision the products as a security tool. While nary a month goes by without some press account on a troubling aspect of facial recognition technology, there's been far less attention paid to the type of artificial intelligence that Vaak is developing.

Vaak's software works by analyzing in-store security camera footage. In <u>a promotional</u> video, the software can not only identify the 29-year-old juice lover, but zero in on a shifty character in a hoodie who may be contemplating shoplifting. A floating tag next to the suspicious man's face identifies him as a 30-year-old who usually only spends 500 yen (about \$5) in the store. A high-tech looking array of dots and lines shimmers across his frame as he peeks down an aisle; presumably it is measuring the man's movements and looking for signs of nefarious intent: fidgeting, restlessness, and suspicious body behavior. After a quick glance to make sure the coast is clear, hoodie guy pockets a can of beer. Vaak clocks him as having an "86-percent" suspicious rate.

According to the *Bloomberg* article "<u>These cameras can spot shoplifters even before they</u> <u>steal</u>," Vaak is testing its software in several locations in the Tokyo region. After a real-life theft during a practice run of the technology at a test store in nearby Yokohama, Vaak reportedly helped authorities arrest a shoplifter. The company's founder, Ryo Tanaka, told *Bloomberg* about the breakthrough moment for the company:

"We took an important step closer to a society where crime can be prevented with Al."

And Vaak is not the only one pursuing this type of body language profiling approach. Wrnch, <u>a Canadian company</u>, uses "synthetic" humans, similar to those that a videogame designer might create, to <u>train the company's system</u> to recognize behaviors. In addition to Vaak and wrnch, companies in <u>England</u> and <u>Israel</u>, at least, are also working on similar technology.

At first glance, this approach appears different from the AI-based surveillance technology taken by facial recognition developers, who rely on massive data sets of photos of actual people, and which has received a torrent of criticism in recent months. (The American Civil Liberties Union found that Amazon's *Rekognition* facial software <u>disproportionately labeled</u> minority members of the US Congress as being in a mug-shot database.)

But behavior recognition software may be no better in this regard. Just as a potentially racially biased <u>facial recognition system</u> could flag a person for police attention, could biased software deem someone moving in a "fidgety" manner as suspicious on dubious grounds?

Kind of all makes one want to go "Vaak."

*

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Featured image: A screenshot from a video on Vaak's website. Credit: Vaak.

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