

Security first: When a footstep is like a fingerprint

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The discovery means that one day retinal scans, [voice recognition](#) and old-fashioned mugshots may be joined by foot-pressure patterns as a means of confirming ID, it suggests.

Previous research has shown that everyone has a unique stride. Computers can determine "gait patterns" -- the way a person walks, saunters, swaggers or sashays -- with up to 90-percent accuracy.

Scientists led by Todd Pataky at Shinshu University in Tokida, Japan,

looked at enhancing this finding by measuring how the foot hits and leaves the ground during walking.

They used 3-D [image processing](#) and a technique called image extraction to analyse the heel strike, roll-to-forefoot and push-off by the toes among 104 volunteers.

Footstep patterns were matched to the individual with 99.6 percent accuracy, according to their paper, published on Wednesday in Britain's Journal of the Royal Society Interface.

The study is "[proof of concept](#)," meaning that it was carried out in experimental conditions among volunteers who were barefoot to see whether the theory was sound.

In an email exchange with AFP, said the technology would be useful in security checks.

But it would only work in situations where an individual wants to be recognised, "since anyone can modify their gait," he explained.

"Automated [airport security](#) checks, ATM security, controlled building access -- in all these cases, an individual could walk normally to be positively identified."

Further work is needed to see whether feet that are shod throw up similar telltale patterns.

"We have some pilot data for walking with shoes, but have not yet conducted systematic testing," Pataky said.

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