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Nowhere to hide: The next manhunt will be crowdsourced

18:20 23 April 2013 by **Hal Hodson**
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It was an unprecedented display of vigilantism. After the bombings at the Boston marathon last week, thousands of would-be sleuths flocked to the internet. They scoured pictures and video and posted images of suspicious characters with backpacks, who seemed to fit official descriptions of the most wanted.

But they failed badly: members of the social media site Reddit falsely accused a missing college student, Sunil Tripathi, of the crimes. Law enforcement agencies got the real suspect, Dzhokhar Tsarnaev, in a very old-fashioned way. An all-out manhunt ended on 19 April when a resident in Watertown, Massachusetts, discovered Tsarnaev hiding in a boat.

Nevertheless, the day in which online crowds are harnessed to track down criminals is fast approaching. Several new tools are being tested that comb through the din of the masses to separate valuable tips from false leads. And in a recent simulated manhunt spanning the globe, the software, combined with loose groups of online participants, got its man.

A big problem with theories floated on social media is that information can go

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Mean streets: police officers tracked their suspect Dzhokhar Tsarnaev to Watertown, Massachusetts *(Image: Brian Snyder/Reuters)*

viral simply because it is popular, whether or not it is true. Patrick Meier of the Qatar Computing Research Institute (QCRI) in Doha is building Verily, a system that allows users to submit verification requests for information they are interested in. Each request prompts a crowd of online workers to set off into their networks to figure it out. The system gathers evidence for and against the claim, though it won't pass judgement.

Meier says Verily could help to tame Reddit. "There was a lot of controversy over Reddit," he says. "What Verily could do is channel the goodwill from this amazing community, and direct it into a systematic process of information collection and analysis."

By training machine learning algorithms on huge data sets, Meier is building up profiles of the classes of digital evidence that tend to be credible, and those that are not.

As an example, Meier points to a recent study of misinformation on Twitter after the 2010 Chilean earthquake. Carlos Castillo of the QCRI and colleagues showed that non-credible tweets tend to spark responses that question or rebuke them – a trait software can be trained to recognise. "Non-credible information propagates across the twittersphere leaving very specific ripples behind," says Meier. "You could absolutely start having a probability – a percentage chance that particular tweets are not credible."

Even without such techniques, a different approach recently showed that social media can be put to good use in a manhunt. Last year the US state department sponsored the Tag Challenge, in which five "suspects" disappeared into five cities around the world – New York, London, Washington, Stockholm and Bratislava. Researchers were given 12 hours to find them using only online social networks.

By providing small cash incentives to those who joined the search – and larger ones to those who identified the quarry – Iyad Rahwan at the Masdar Institute of Science and Technology, United Arab Emirates, and colleagues found three of the five volunteers who were posing as suspects. In a recent paper, Rahwan showed that the team succeeded because their messages were aimed at residents of the cities where the suspects were hiding.

Such principles become even more important in a real manhunt, he says. In the hours after the stand-off between police officers and Tsarnaev and his older

brother Tamerlan, messages requesting information could have been sent out to all Twitter and Facebook accounts that fell within the area where Dzhokhar was believed to be hiding. The targeting could even have been further refined by sending tweets only to active users, those with a good record of accurate tweeting, or older established accounts.

But Rahwan warns that such a system could be dangerous if it fell into the wrong hands. "If you have an artificial intelligence that can coordinate masses of people to go search for a person on the run, the question is, can the same program start a riot?"

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