



'It's difficult to monitor CCTV cameras, as operators normally have a large number of screens to watch'

Dima Damen, Leeds School of Computing

SECURITY

Bike chains get high-tech backup



IN THE UK alone, more than half a million people a year end up with a long walk home when they return to the place where they locked up their bicycle and find it has been stolen.

Now a researcher at the University of Leeds has used imaging technology to create a system that can determine if the cyclist who rides off isn't the one who locked the bike up. The same technique could help tackle terrorism by spotting suspicious events in public places.

Dima Damen, a PhD student in the Computer Vision Group at Leeds School of Computing, found that, while many local councils have installed CCTV cameras above public bicycle racks, their effectiveness in deterring thieves is somewhat limited.

"It's difficult to monitor CCTV cameras, as operators normally have a large number of screens to watch," said Damen. "This often results in bicycle thefts being missed, even if they

are happening in front of the camera."

Her solution is to take colour information from CCTV images of cyclists arriving at a storage rack and storing it until someone arrives to reclaim the bike. If there are significant differences operators are alerted and can intervene.

"Without a system like this, the benefit of CCTV cameras is diminished by the difficulties of manual monitoring," added Damen. "It's a simple solution to

an extremely widespread problem."

In initial tests at the university, 11 out of 13 simulated 'thefts' were detected. Damen is now refining her invention in the hope that it could be used to identify potentially more serious behaviour, such as when someone enters a public place like an airport with a bag but leaves without it.

"Someone intending to leave a suspicious package won't leave it in full view of a CCTV camera, but may choose to leave it in a toilet or behind a pillar," she explains. "We think we can engineer this technology to recognise people who enter flagged areas with a package or bag, but then leave without it, raising an alert for security staff."

UK BIKE THEFT HOTSPOTS

(source: Halifax Home Insurance)

- 1 London
- 2 Kingston-upon-Thames
- 3 Cambridge
- 4 Bristol
- 5 York
- 6 Oxford
- 7 Richmond & Twickenham
- 8 Brighton
- 9 Portsmouth
- 10 Nottingham