Defeating credit card fraud

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Online behavioural targeting and device fingerprinting could be used to combat credit card fraud according to a team from Botswana International University of Science and Technology, in Palapye, Botswana. Writing in the *International Journal of Electronic Security and Digital Forensics*, Motlhaleemang Moalosi, Hlomani Hlomani, and

Othusitse Phefo explain how there are numerous existing credit card fraud detection techniques employed by card issuers and other stakeholders. Nevertheless, billions of dollars are lost each year to fraudsters.

The team has now combined behaviour and fingerprinting technology to boost the efficiency and efficacy of the fusion approach using Dempster-Shafer theory and Bayesian learning for fraud detection. The approach can spot odd behaviour that is not characteristic of the legitimate user of a given credit card and so detect fraudulent activity on the account.

The approach discussed in the paper is at present a theoretical treatise, the next step will be to simulate actual behaviour using synthetic data sets and then apply to a real-world scenario for testing its efficacy. So far efficacy has been demonstrated with data from devices that have already been used in known fraudulent activity.

The team suggests that their approach goes well beyond simply tweaking existing fraud-detection algorithms and could offer what they say is a ground-breaking approach that performs far better than trial and error approaches and reduces the number of false positives.

More information: Motlhaleemang Moalosi et al. Combating credit card fraud with online behavioural targeting and device fingerprinting, *International Journal of Electronic Security and Digital Forensics* (2018). DOI: 10.1504/IJESDF.2019.096527

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