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DEFORMED IDENTITY CRIME DETECTION

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ABSTRACT

Identity crime is well known, prevalent, and very prominent in our society and credit application fraud is a specific case of identity crime. The existing non-data mining detection systems of business rules and scorecards, and known fraud matching have limitations. To overcome these limitations and combat identity crime in real-time, this paper proposes a new multi-layered detection system complemented with two additional layers: clique Detection and suspicion score Detection. Clique finds real social relationships to reduce the suspicion score, and is tamper-resistant to synthetic social relationships. It is the whitelist-oriented approach on a fixed set of attributes. Suspicion score finds spikes in duplicates to increase the suspicion score, and is probe-resistant for attributes. Research has been carried out on clique and suspicion score with several and huge set of real credit applications. Although this method is specific to credit application fraud detection, but the concept of deformation, together with adaptivity and quality of data discussed in the paper, are general to the design, implementation, and evaluation of all detection systems.

KEYWORDS: Anomaly Detection, Data Mining Based Fraud Detection, Data Stream Mining, Security, Text Attribute