Behavioral Fraud Mitigation through Trend Offsets

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Abstract

Fraud is often a dynamic and challenging problem in credit card lending business. Credit card fraud can be broadly classified into behavioral and application fraud, with behavioral fraud being the more prominent of the two. Supervised modeling/segmentation techniques are commonly used in fraud detection to distinguish risky transactions from non-risky transactions. However, these techniques frequently rely on identifying risky behavior at a global level. In this paper, along with the classical approach, a new technique has been studied to improve the behavioral fraud detection capability. The application of this proposed technique enables us to identify risky behavior at the account level. It assigns a signature to each account based on its most recent transaction behavior and captures deviations from the assigned signature. This results in an incremental reduction in fraud losses of 15 percent at false positives (good accounts impacted per fraud account) as low as 15.