

Uncovering Fraud in Direct Marketing Data with a Fraud Auditing Case Builder

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- ◆ Our system is a fraud case builder, NOT a fraud detector
- ◆ System simulates task of fraud auditors who:
 - Run traditional fraud detectors to find candidates of possible fraud cases
 - Explore related information to determine if the candidate is a fraud case or not
 - Return a case of fraud if it is or dismiss the candidate if it isn't

Algorithm & Experiments

◆ Our system uses:

- Reinforcement learning for our searching
- Outlier detectors to find fraud candidates

◆ Experiments:

- Conducted on real marketing data
- Algorithm implementation shows improved fraud precision over fraud detectors alone
- Attempt to combine multiple fraud detectors to build more accurate fraud cases