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Collana	Wiley and SAS Business Series
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Soggetti	Fraud - Statistical methods Fraud - Prevention Commercial crimes - Prevention
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Livello bibliografico	Monografia
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Title Page; Copyright; Contents; List of Figures; Foreword; Preface; Acknowledgments; Chapter 1 Fraud: Detection, Prevention, and Analytics!; Introduction; Fraud!; Fraud Detection and Prevention; Big Data for Fraud Detection; Data-Driven Fraud Detection; Fraud-Detection Techniques; Fraud Cycle; The Fraud Analytics Process Model; Fraud Data Scientists; A Fraud Data Scientist Should Have Solid Quantitative Skills; A Fraud Data Scientist Should Be a Good Programmer; A Fraud Data Scientist Should Excel in Communication and Visualization Skills A Fraud Data Scientist Should Have a Solid Business Understanding A Fraud Data Scientist Should Be Creative; A Scientific Perspective on Fraud; References; Chapter 2 Data Collection, Sampling, and Preprocessing; Introduction; Types of Data Sources; Merging Data Sources; Sampling; Types of Data Elements; Visual Data Exploration and Exploratory Statistical Analysis; Benford's Law; Descriptive Statistics; Missing Values; Outlier Detection and Treatment; Red Flags;

Standardizing Data; Categorization; Weights of Evidence Coding; Variable Selection; Principal Components Analysis; RIDITs
PRIDIT Analysis Segmentation; References; Chapter 3 Descriptive Analytics for Fraud Detection; Introduction; Graphical Outlier Detection Procedures; Statistical Outlier Detection Procedures; Break-Point Analysis; Peer-Group Analysis; Association Rule Analysis; Clustering; Introduction; Distance Metrics; Hierarchical Clustering; Example of Hierarchical Clustering Procedures; k-Means Clustering; Self-Organizing Maps; Clustering with Constraints; Evaluating and Interpreting Clustering Solutions; One-Class SVMs; References; Chapter 4 Predictive Analytics for Fraud Detection; Introduction
Target Definition Linear Regression; Logistic Regression; Basic Concepts; Logistic Regression Properties; Building a Logistic Regression Scorecard; Variable Selection for Linear and Logistic Regression; Decision Trees; Basic Concepts; Splitting Decision; Stopping Decision; Decision Tree Properties; Regression Trees; Using Decision Trees in Fraud Analytics; Neural Networks; Basic Concepts; Weight Learning; Opening the Neural Network Black Box; Support Vector Machines; Linear Programming; The Linear Separable Case; The Linear Nonseparable Case; The Nonlinear SVM Classifier; SVMs for Regression Opening the SVM Black Box Ensemble Methods; Bagging; Boosting; Random Forests; Evaluating Ensemble Methods; Multiclass Classification Techniques; Multiclass Logistic Regression; Multiclass Decision Trees; Multiclass Neural Networks; Multiclass Support Vector Machines; Evaluating Predictive Models; Splitting Up the Data Set; Performance Measures for Classification Models; Performance Measures for Regression Models; Other Performance Measures for Predictive Analytical Models; Developing Predictive Models for Skewed Data Sets; Varying the Sample Window; Undersampling and Oversampling Synthetic Minority Oversampling Technique (SMOTE)

Sommario/riassunto

Detect fraud earlier to mitigate loss and prevent cascading damage
Fraud Analytics Using Descriptive, Predictive, and Social Network Techniques is an authoritative guidebook for setting up a comprehensive fraud detection analytics solution. Early detection is a key factor in mitigating fraud damage, but it involves more specialized techniques than detecting fraud at the more advanced stages. This invaluable guide details both the theory and technical aspects of these techniques, and provides expert insight into streamlining implementation. Coverage includes data gathering, preprocessing, mode
