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Autore	Greenberg Michael D. <1935->
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 2.10 Particular Solution By Variation Of Parameters

Sommario/riassunto

Features a balance between theory, proofs, and examples and provides applications across diverse fields of study Ordinary Differential Equations presents a thorough discussion of first-order differential equations and progresses to equations of higher order. The book transitions smoothly from first-order to higher-order equations, allowing readers to develop a complete understanding of the related theory. Featuring diverse and interesting applications from engineering, bioengineering, ecology, and biology, the book anticipates potential difficulties in understanding the various

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2.6 Multivariate Data Visualization 2.6.1 Histogram Matrix; 2.6.2 Scatterplot Matrix; 2.6.3 Multiple Box Plot; 2.6.4 Trellis Plot; 2.7 Visualizing Groups; 2.7.1 Dendrograms; 2.7.2 Decision Trees; 2.7.3 Cluster Image Maps; 2.8 Dynamic Techniques; 2.8.1 Overview; 2.8.2 Data Brushing; 2.8.3 Nearness Selection; 2.8.4 Sorting and Rearranging; 2.8.5 Searching and Filtering; 2.9 Summary; 2.10 Further Reading; 3 CLUSTERING; 3.1 Overview; 3.2 Distance Measures; 3.2.1 Overview; 3.2.2 Numeric Distance Measures; 3.2.3 Binary Distance Measures; 3.2.4 Mixed Variables; 3.2.5 Other Measures 3.3 Agglomerative Hierarchical Clustering 3.3.1 Overview; 3.3.2 Single Linkage; 3.3.3 Complete Linkage; 3.3.4 Average Linkage; 3.3.5 Other Methods; 3.3.6 Selecting Groups; 3.4 Partitioned-Based Clustering; 3.4.1 Overview; 3.4.2 k-Means; 3.4.3 Worked Example; 3.4.4 Miscellaneous Partitioned-Based Clustering; 3.5 Fuzzy Clustering; 3.5.1 Overview; 3.5.2 Fuzzy k-Means; 3.5.3 Worked Examples; 3.6 Summary; 3.7 Further Reading; 4 PREDICTIVE ANALYTICS; 4.1 Overview; 4.1.1 Predictive Modeling; 4.1.2 Testing Model Accuracy; 4.1.3 Evaluating Regression Models' Predictive Accuracy 4.1.4 Evaluating Classification Models' Predictive Accuracy 4.1.5 Evaluating Binary Models' Predictive Accuracy; 4.1.6 ROC Charts; 4.1.7 Lift Chart; 4.2 Principal Component Analysis; 4.2.1 Overview; 4.2.2 Principal Components; 4.2.3 Generating Principal Components; 4.2.4 Interpretation of Principal Components; 4.3 Multiple Linear Regression; 4.3.1 Overview; 4.3.2 Generating Models; 4.3.3 Prediction; 4.3.4 Analysis of Residuals; 4.3.5 Standard Error; 4.3.6 Coefficient of Multiple Determination; 4.3.7 Testing the Model Significance; 4.3.8 Selecting and Transforming Variables 4.4 Discriminant Analysis

Sommario/riassunto

A hands-on guide to making valuable decisions from data using advanced data mining methods and techniques This second installment in the Making Sense of Data series continues to explore a diverse range of commonly used approaches to making and communicating decisions from data. Delving into more technical topics, this book equips readers with advanced data mining methods that are needed to successfully translate raw data into smart decisions across various fields of research including business, engineering, finance, and the social sciences. Following a comprehensive introduction tha