Data Mining For Business Intelligence: Concepts, Techniques, And Applications In Microsoft Office Excel With XLMiner
Incorporating a new focus on data visualization and time series forecasting, Data Mining for Business Intelligence, Second Edition continues to supply insightful, detailed guidance on fundamental data mining techniques. This new edition guides readers through the use of the Microsoft Office Excel add-in XLMiner for developing predictive models and techniques for describing and finding patterns in data. From clustering customers into market segments and finding the characteristics of frequent flyers to learning what items are purchased with other items, the authors use interesting, real-world examples to build a theoretical and practical understanding of key data mining methods, including classification, prediction, and affinity analysis as well as data reduction, exploration, and visualization. The Second Edition now features: Three new chapters on time series forecasting, introducing popular business forecasting methods including moving average, exponential smoothing methods; regression-based models; and topics such as explanatory vs. predictive modeling, two-level models, and ensembles; A revised chapter on data visualization that now features interactive visualization principles and added assignments that demonstrate interactive visualization in practice; Separate chapters that each treat k-nearest neighbors and Naïve Bayes methods; Summaries at the start of each chapter that supply an outline of key topics; The book includes access to XLMiner, allowing readers to work hands-on with the provided data. Throughout the book, applications of the discussed topics focus on the business problem as motivation and avoid unnecessary statistical theory. Each chapter concludes with exercises that allow readers to assess their comprehension of the presented material. The final chapter includes a set of cases that require use of the different data mining techniques, and a related Web site features data sets, exercise solutions, PowerPoint slides, and case solutions. Data Mining for Business Intelligence, Second Edition is an excellent book for courses on data mining, forecasting, and decision support systems at the upper-undergraduate and graduate levels. It is also a one-of-a-kind resource for analysts, researchers, and practitioners working with quantitative methods in the fields of business, finance, marketing, computer science, and information technology.

Book Information

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I am a data mining trainer and consultant. This book not only has good content, but it offers a 90 day license of software with which to rehearse the case study examples. My comments on the book will be accompanied by comments on the software. The book is the perfect fit for its intended audience. With the caution that certain readers will do better elsewhere, I think it is a great book. The major topics are addressed, albeit briefly, with clarity. If you are a first timer reader of this subject, there are not many books that will do a better job explaining these technical subjects for a general audience. Like most full time data miners, I would have difficulty living within the constraints of Excel. XLMiner is a fine piece of software, but it lives inside Excel as an Excel add-on. The most famous limitation is having no more than 1,000,000 rows of data, but that nature of that limitation applied to Data Mining is frequently misunderstood. I am often on projects with "big data" clients where I only model 100,000 or fewer records. XLMiner allows you to read from a database larger than Excel can handle, and let's you write out to a database larger than Excel can handle. I was surprised and impressed by this. In the end, though, it still isn't enough. I need to be able to merge and manipulate my large data files so that I can carefully select the smaller fraction that I am going to model. In short, I can't live without my more powerful tools. There is an essay offered as a sidebar in the book on the state of the Data Mining Software Tools market by Herb Edelstein which discusses exactly this fact. XLMiner was originally developed as a piece of teaching software, and it excels at that.

I thought that this book gives a nice introductory overview of different techniques, and does a good job of explaining advantages and potential pitfalls of the analyses. The issue I have, and why I couldn't give this book a higher rating, has to do with the incomplete use of examples. A general rule for a good statistics textbook (and I've read plenty within my field), is that when you have a
formula, and you have a sample dataset and model (e.g., a regression model based on sample data), you then show a concrete example of how the output from the model is plugged into the formula to arrive at the final value. For example, you show the formula, and then show the formula with values from the output plugged into it, so it's completely clear how the formula that you're using to forecast data is applied to the output from your regression formula. This book doesn't always follow that general rule. A good example is within the chapter on using time series regression to forecast. The authors show the general formula (not showing it with any numbers from the dataset they're using plugged in), and then show different variations of the formula such as inclusion of quadratic terms (again, not with any numbers plugged in). Then they mention that using the formula applied to the data in a particular model in one of the figures would produce a certain value. Well, I came up with a different value when I tried it myself. And there was no way to see where I went wrong since in no place within the chapter did the authors bother to demonstrate application of the formula to the sample dataset they'd been using in the entire chapter! That left me trying to second-guess the authors, given that the formula included some complexity (e.g.

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