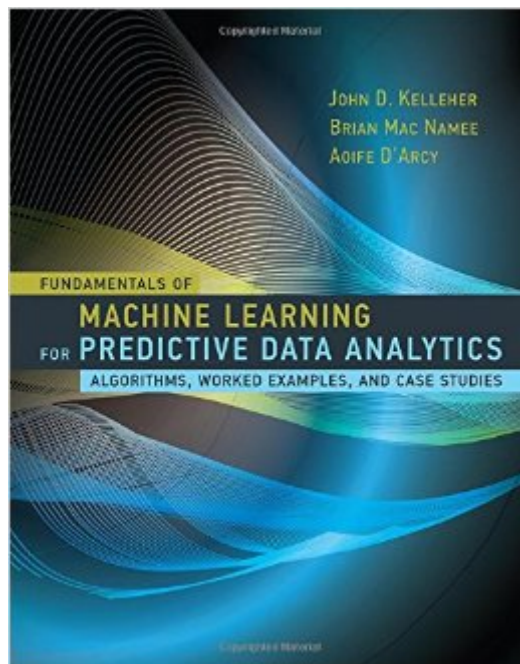# Fundamentals Of Machine Learning For Predictive Data Analytics: Algorithms, Worked Examples, And Case Studies (MIT Press)

Synopsis

Machine learning is often used to build predictive models by extracting patterns from large datasets. These models are used in predictive data analytics applications including price prediction, risk assessment, predicting customer behavior, and document classification. This introductory textbook offers a detailed and focused treatment of the most important machine learning approaches used in predictive data analytics, covering both theoretical concepts and practical applications. Technical and mathematical material is augmented with explanatory worked examples, and case studies illustrate the application of these models in the broader business context.After discussing the trajectory from data to insight to decision, the book describes four approaches to machine learning: information-based learning, similarity-based learning, probability-based learning, and error-based learning. Each of these approaches is introduced by a nontechnical explanation of the underlying concept, followed by mathematical models and algorithms illustrated by detailed worked examples. Finally, the book considers techniques for evaluating prediction models and offers two case studies that describe specific data analytics projects through each phase of development, from formulating the business problem to implementation of the analytics solution. The book, informed by the authors' many years of teaching machine learning, and working on predictive data analytics projects, is suitable for use by undergraduates in computer science, engineering, mathematics, or statistics; by graduate students in disciplines with applications for predictive data analytics; and as a reference for professionals.

Book Information

Series: MIT Press

Hardcover: 624 pages

Publisher: The MIT Press; 1 edition (July 24, 2015)

Language: English

ISBN-10: 0262029448

ISBN-13: 978-0262029445

Product Dimensions: 7 x 0.9 x 9 inches

Shipping Weight: 2.3 pounds (View shipping rates and policies)

Average Customer Review: 4.8 out of 5 starsÂ Â See all reviewsÂ (13 customer reviews)

Best Sellers Rank: #19,849 in Books (See Top 100 in Books)   #3 inÂ Books > Computers & Technology > Computer Science > AI & Machine Learning > Machine Theory   #9 inÂ Books > Textbooks > Computer Science > Artificial Intelligence   #21 inÂ Books > Computers & Technology

Customer Reviews

A future Classic. This book rigorously and clearly defines the key terms in Machine Learning. You will also find explanations of the core concepts of machine learning algorithms and enough math and images to consolidate your understanding. I encourage people to read this book before reading "An Introduction to Statistical Learning". Highly recommended

I am ML specialist and instructor.There are many different types of books in Machine Learning. That cover various aspects of the field.Some books are base on theoretic side: Learning from the Data.Some books provide a gentle way for programming for Machine Learning in different languagesSome books combine theory and programmingThis book "Fundamentals of Machine Learning" a good written book for practitioner in machine learning. For people that want to know how machine learning experts work. That processes they use, and how them organize there work.In additional basic properties and ideas of general algorithms discussed.This book uses excellent plant English, many examples and real casesBut if you need mathematical background or programming background I think you need use another book.

This book will teach you CRISP-DM workflow and how to think about analytics in a professional manner in addition to the core ML algorithms. The authors cover crucial practical information and work habits every data scientist should know. I do not know of any way to get this information other than making a lot of mistakes in the field. Well done! I encourage all my students to pick up a copy.

Well written, and most pragmatic machine learning and predictive data analytics. One of the difficulties of didactic texts in the subject is ... machine learning is a very diverse field. All kinds of gizmos are helpful, and there isn't an obvious taxonomy, as there is in, say, linear time series models. The author takes a very high level view; breaking the field down into geometric, probabilistic and "logical" models. I believe this to be original, and a very powerful way of looking at things for the beginner.

This book is alright as a very basic introduction, but there are much better alternatives. If you know some basic statistics, probability and programming, there are much better books available. If you know Python, I would highly recommend Python Machine Learning. If you know R, then go with An

Introduction to Statistical Learning: with Applications in R (Springer Texts in Statistics). These books teach you machine learning along with programming, so you can become a practitioner faster.

Well written, well laid out and (best of all) an exceedingly useful treatment of machine learning and predictive data analytics. Highly recommended.

This is one of the best books on any subject I have read. Every aspect of this book -- approach, flow, content, theory, example, explanation -- is great. Reading this book was an excellent learning opportunity for me. The authors are dealing with a complicated topic of machine learning with such an ease and are practically explaining every concept/equation and its implementation. This will be a permanent addition to my library and will serve as excellent reference whenever I need to check relevant information.

Fundamentals of Machine Learning for Predictive Data Analytics: Algorithms, Worked Examples, and Case Studies (MIT Press) Analytics: Data Science, Data Analysis and Predictive Analytics for Business (Algorithms, Business Intelligence, Statistical Analysis, Decision Analysis, Business Analytics, Data Mining, Big Data) Data Analytics: What Every Business Must Know About Big Data And Data Science (Data Analytics for Business, Predictive Analysis, Big Data) Data Analytics: Practical Data Analysis and Statistical Guide to Transform and Evolve Any Business. Leveraging the Power of Data Analytics, Data ... (Hacking Freedom and Data Driven) (Volume 2) Analytics: Data Science, Data Analysis and Predictive Analytics for Business Machine Learning with R - Second Edition - Deliver Data Insights with R and Predictive Analytics Machine Learning with Spark - Tackle Big Data with Powerful Spark Machine Learning Algorithms Predictive Analytics with Microsoft Azure Machine Learning 2nd Edition Crash!: How the Economic Boom and Bust of the 1920s Worked (How Things Worked) Unsupervised Deep Learning in Python: Master Data Science and Machine Learning with Modern Neural Networks written in Python and Theano (Machine Learning in Python) Deep Learning in Python Prerequisites: Master Data Science and Machine Learning with Linear Regression and Logistic Regression in Python (Machine Learning in Python) Convolutional Neural Networks in Python: Master Data Science and Machine Learning with Modern Deep Learning in Python, Theano, and TensorFlow (Machine Learning in Python) Deep Learning in Python: Master Data Science and Machine Learning with Modern Neural Networks written in Python, Theano, and TensorFlow (Machine Learning in Python) Fraud Analytics Using Descriptive, Predictive, and Social Network Techniques: A Guide to Data Science for Fraud Detection (Wiley

and SAS Business Series) A collection of Advanced Data Science and Machine Learning Interview Questions Solved in Python and Spark (II): Hands-on Big Data and Machine ... Programming Interview Questions) (Volume 7) Unsupervised Machine Learning in Python: Master Data Science and Machine Learning with Cluster Analysis, Gaussian Mixture Models, and Principal Components Analysis Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data Deep Learning: Recurrent Neural Networks in Python: LSTM, GRU, and more RNN machine learning architectures in Python and Theano (Machine Learning in Python) Machine Learning: The Art and Science of Algorithms that Make Sense of Data Java Artificial Intelligence: Made Easy, w/ Java Programming; Learn to Create your * Problem Solving * Algorithms! TODAY! w/ Machine Learning & Data ... engineering, r programming, iOS development)