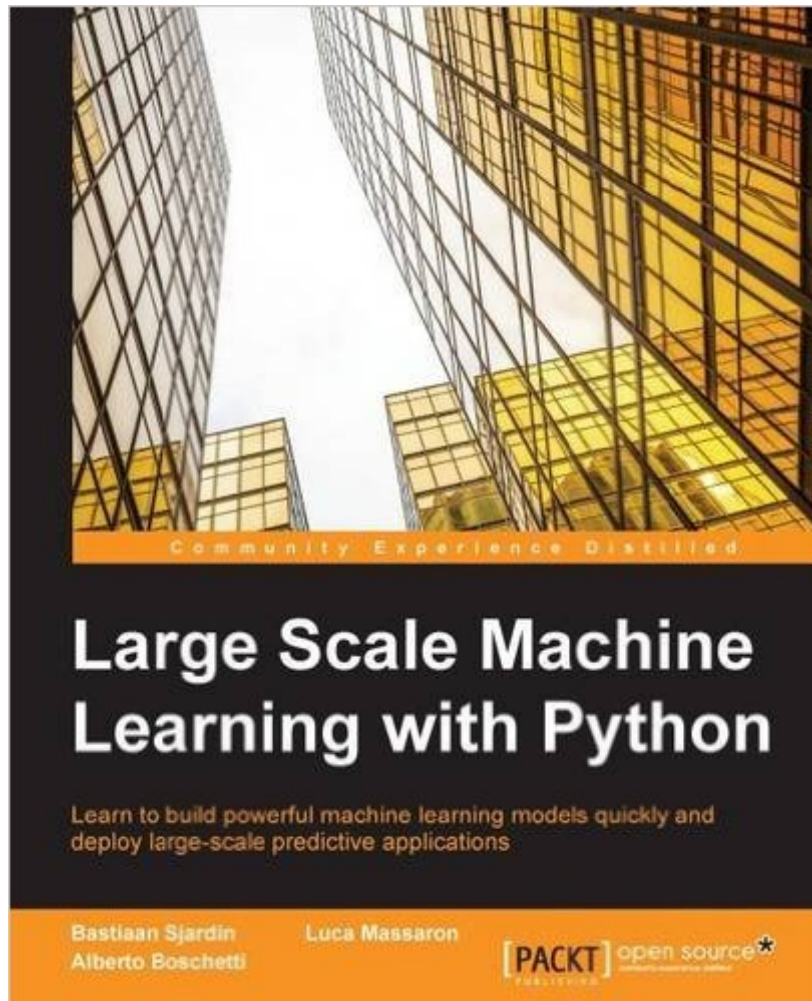# Large Scale Machine Learning With Python

Synopsis

Learn to build powerful machine learning models quickly and deploy large-scale predictive applicationsAbout This BookDesign, engineer and deploy scalable machine learning solutions with the power of PythonTake command of Hadoop and Spark with Python for effective machine learning on a map reduce frameworkBuild state-of-the-art models and develop personalized recommendations to perform machine learning at scaleWho This Book Is ForThis book is for anyone who intends to work with large and complex data sets. Familiarity with basic Python and machine learning concepts is recommended. Working knowledge in statistics and computational mathematics would also be helpful.What You Will LearnApply the most scalable machine learning algorithmsWork with modern state-of-the-art large-scale machine learning techniquesIncrease predictive accuracy with deep learning and scalable data-handling techniquesImprove your work by combining the MapReduce framework with SparkBuild powerful ensembles at scaleUse data streams to train linear and non-linear predictive models from extremely large datasets using a single machineIn DetailLarge Python machine learning projects involve new problems associated with specialized machine learning architectures and designs that many data scientists have yet to tackle. But finding algorithms and designing and building platforms that deal with large sets of data is a growing need. Data scientists have to manage and maintain increasingly complex data projects, and with the rise of big data comes an increasing demand for computational and algorithmic efficiency. Large Scale Machine Learning with Python uncovers a new wave of machine learning algorithms that meet scalability demands together with a high predictive accuracy.Dive into scalable machine learning and the three forms of scalability. Speed up algorithms that can be used on a desktop computer with tips on parallelization and memory allocation. Get to grips with new algorithms that are specifically designed for large projects and can handle bigger files, and learn about machine learning in big data environments. We will also cover the most effective machine learning techniques on a map reduce framework in Hadoop and Spark in Python.Style and ApproachThis efficient and practical title is stuffed full of the techniques, tips and tools you need to ensure your large scale Python machine learning runs swiftly and seamlessly.Large-scale machine learning tackles a different issue to what is currently on the market. Those working with Hadoop clusters and in data intensive environments can now learn effective ways of building powerful machine learning models from prototype to production.This book is written in a style that programmers from other languages (R, Julia, Java, Matlab) can follow.

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Customer Reviews

Disclosure: I was a technical reviewer of this book.Many books when their subject is Machine Learning with Python concentrate on a few most known and used libraries to explain Machine Learning tasks and solutions. Although I don't want to say that such books are useless for readers, they may still leave gaps in understanding of how a certain method or library would work in real-world scenarios. Authors of the book "Large Scale Machine Learning with Python" set up an ambitious goal to teach readers how to solve real-world Machine Learning problems by employing a variety of libraries, frameworks, and tools relying on Python. This advantageously differentiates a given book from many other books on the same subject.The following practical situations are considered and their solutions are presented:- Tall datasets when the number of cases is large, compared to the number of features.- Wide datasets when the number of features is large, compared to the number of cases.- Both tall and wide datasets when both the number of features and the number of cases are large.- Sparse datasets when there are many zero-valued elements.The book treats the problem of scalability from different angles, such as fast batch (offline) processing, incremental online processing (one instance at a time arrives), streaming processing (a chunk of instances at a time arrives) and distributed processing. Popular libraries and frameworks, such as Gensim, H2O, XGBoost, TensorFlow, Theano, Theanets, Keras, Vowpal Wabbit, and Spark and their applications are explained through numerous Python snippets. In my opinion, this is one of the first books presenting all these tools under one cover.

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