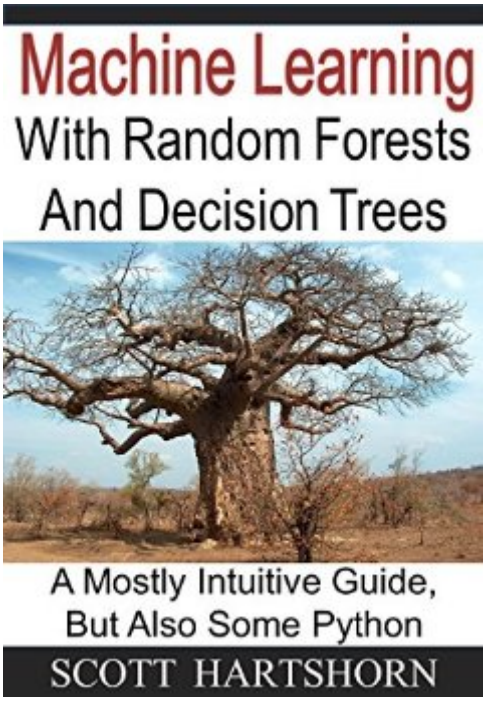
Machine Learning With Random Forests And Decision Trees: A Mostly Intuitive Guide, But Also Some Python



Synopsis

Random Forests are one type of machine learning algorithm. They are typically used to categorize something based on other data that you have. The purpose of this book is to help you understand how Random Forests work, as well as the different options that you have when using them to analyze a problem. Additionally, since Decision Trees are a fundamental part of Random Forests, this book explains how they work. This book is focused on understanding Random Forests at the conceptual level. Knowing how they work, why they work the way that they do, and what options are available to improve results. This book covers how Random Forests work in an intuitive way, and also explains the equations behind many of the functions, but it only has a small amount of actual code (in python).This book is focused on giving examples and providing analogies for the most fundamental aspects of how random forests and decision trees work. The reason is that those are easy to understand and they stick with you. There are also some really interesting aspects of random forests, such as information gain, feature importances, or out of bag error, that simply cannot be well covered without diving into the equations of how they work. For those the focus is providing the information in a straight forward and easy to understand way.

Book Information

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Customer Reviews

This is an approx 60 pp book concentrating just on decision trees and their more robust cousin, random forests. The examples are generated using the python scikit learn library, but the examples are clearly worked through in the text, not just in code. Previously, I have seen one or two useful diagrams in the scikit learn examples, illustrating the splitting result, but the author takes this idea to a whole new level with many diagrams illustrating fitting and over-fitting. There are also diagrams that illustrate the 'fuzzy' boundaries generated by the many trees created by random forest.Like many people, I always look at which features were chosen for splitting, to make sure the decision tree didn't do something 'weird', but the ideas I have seen in this book have made me realize that there is a whole 'nother level that you can take to introspect your results.

Great starter book on the concept. High level selection of topics, conversational presentation, and most importantly a fast read. This is an excellent strategy because it covers all the essentials, while still leaving you enough time to dig into some application or play with a build as you go along (which is ultimately the point). Leaves you free time to explore the topic and truly digest it, without assuming prior experience. Well done!

An easy to understand introduction to a topic of interest to academics, scientists, engineers and interested laypeople. Scott provides an easy to understand example and great graphics to make his points. This is not a textbook, but you may want to read this short book before you tackle something higher level.

This book is well written and it is an easy introduction to the concepts introduced.I would recommend it if you are just trying to have a better sense of the principles of Random Forest algorithm. You are not going to become an expert in the subject just by reading it.

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