
Wrapping Up

You now know how to apply the important machine learning algorithms for supervised and unsupervised learning, which allow you to solve a wide variety of machine learning problems. Before we leave you to explore all the possibilities that machine learning offers, we want to give you some final words of advice, point you toward some additional resources, and give you suggestions on how you can further improve your machine learning and data science skills.

Approaching a Machine Learning Problem

With all the great methods that we introduced in this book now at your fingertips, it may be tempting to jump in and start solving your data-related problem by just running your favorite algorithm. However, this is not usually a good way to begin your analysis. The machine learning algorithm is usually only a small part of a larger data analysis and decision-making process. To make effective use of machine learning, we need to take a step back and consider the problem at large. First, you should think about what kind of question you want to answer. Do you want to do exploratory analysis and just see if you find something interesting in the data? Or do you already have a particular goal in mind? Often you will start with a goal, like detecting fraudulent user transactions, making movie recommendations, or finding unknown planets. If you have such a goal, before building a system to achieve it, you should first think about how to define and measure success, and what the impact of a successful solution would be to your overall business or research goals. Let's say your goal is fraud detection.