

A First Course in Statistical Learning

With Data Examples and Python Code

This textbook introduces the fundamental concepts and methods of statistical learning. It uses Python and provides a unique approach by blending theory, data examples, software code, and exercises from beginning to end for a profound yet practical introduction to statistical learning.

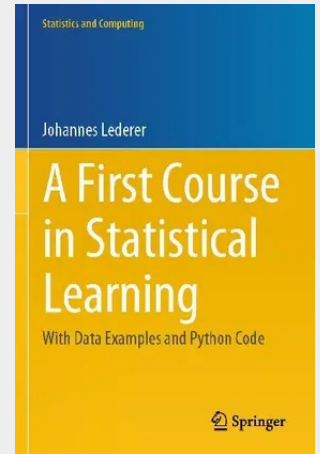
The book consists of three parts: The first one presents data in the framework of probability theory, exploratory data analysis, and unsupervised learning. The second part on inferential data analysis covers linear and logistic regression and regularization. The last part studies machine learning with a focus on support-vector machines and deep learning. Each chapter is based on a dataset, which can be downloaded from the book's homepage.

In addition, the book has the following features:

- A careful selection of topics ensures rapid progress.
- An opening question at the beginning of each chapter leads the reader through the topic.
- Expositions are rigorous yet based on elementary mathematics.
- More than two hundred exercises help digest the material.
- A crisp discussion section at the end of each chapter summarizes the key concepts and highlights practical implications.
- Numerous suggestions for further reading guide the reader in finding additional information.

This book is for everyone who wants to understand and apply concepts and methods of statistical learning. Typical readers are graduate and advanced undergraduate students in data-intensive fields such as computer science, biology, psychology, business, and engineering, and graduates preparing for their job interviews.

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