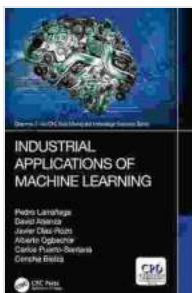# Industrial Applications of Machine Learning: Chapman & Hall/CRC Data Mining and Knowledge Discovery Series

Machine learning is a branch of artificial intelligence that allows computers to learn from data without being explicitly programmed. This makes it a powerful tool for a wide range of industrial applications, where it can be used to automate tasks, improve decision-making, and optimize processes.

Industrial Applications of Machine Learning (Chapman & Hall/CRC Data Mining and Knowledge Discovery Series) by Sebastiano Battiato

★★★★★ 5 out of 5

Language	:	English
File size	:	29683 KB
Screen Reader	:	Supported
Print length	:	350 pages
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Grade level	:	1 - 2
Item Weight	:	3.07 ounces
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This book provides a comprehensive overview of the latest advances in machine learning and their applications in industry. It covers a wide range of topics, including:

* The basics of machine learning * Supervised and unsupervised learning * Feature engineering * Model selection and evaluation * Case studies of machine learning applications in industry

The book is written by a team of experts in machine learning and its industrial applications. It is a valuable resource for anyone who wants to learn more about this rapidly growing field.

Chapter 1: to Machine Learning

This chapter provides a gentle to the basics of machine learning. It covers the following topics:

* What is machine learning? * The different types of machine learning * The benefits and challenges of using machine learning

Chapter 2: Supervised Learning

Supervised learning is a type of machine learning where the computer is trained on a dataset that has been labeled with the correct answers. This allows the computer to learn to map inputs to outputs.

This chapter covers the following topics:

* The different types of supervised learning algorithms * How to choose the right supervised learning algorithm * How to evaluate the performance of a supervised learning model

Chapter 3: Unsupervised Learning

Unsupervised learning is a type of machine learning where the computer is trained on a dataset that has not been labeled. This allows the computer to

learn to find patterns and structures in the data.

This chapter covers the following topics:

* The different types of unsupervised learning algorithms * How to choose the right unsupervised learning algorithm * How to evaluate the performance of an unsupervised learning model

Chapter 4: Feature Engineering

Feature engineering is the process of transforming raw data into features that are more suitable for machine learning models. This can involve removing noise from the data, normalizing the data, and creating new features.

This chapter covers the following topics:

* The importance of feature engineering * The different types of feature engineering techniques * How to choose the right feature engineering techniques

Chapter 5: Model Selection and Evaluation

Once you have trained a machine learning model, you need to select the best model and evaluate its performance. This involves using a variety of metrics to measure the model's accuracy, precision, recall, and F1 score.

This chapter covers the following topics:

* The different types of model selection metrics * How to choose the right model selection metric * How to evaluate the performance of a machine

learning model

Chapter 6: Case Studies of Machine Learning Applications in Industry

This chapter provides a number of case studies of machine learning applications in industry. These case studies cover a wide range of industries, including manufacturing, healthcare, transportation, and finance.

Each case study includes a description of the problem that was solved, the machine learning solution that was used, and the results that were achieved.

Machine learning is a powerful tool that can be used to solve a wide range of industrial problems. This book provides a comprehensive overview of the latest advances in machine learning and their applications in industry. It is a valuable resource for anyone who wants to learn more about this rapidly growing field.

References

* [1] Alpaydin, E. (2016). Machine learning

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