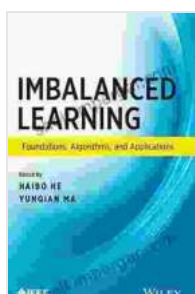# Embark on a Journey into Imbalanced Learning: Master the Algorithms and Applications

In today's data-driven world, where machine learning algorithms are employed to make critical decisions, it is crucial to address the challenge of imbalanced data. Imbalanced learning arises when the distribution of data samples across different classes is uneven, often leading to models that favor the majority class while neglecting the underrepresented ones.

To overcome this obstacle, the book "Imbalanced Learning: Foundations, Algorithms, and Applications" emerges as an invaluable resource for researchers, practitioners, and students alike. This comprehensive guide delves into the fundamental concepts, advanced algorithms, and practical applications of imbalanced learning, empowering readers with the knowledge and tools to tackle this ubiquitous challenge.

Imbalanced Learning: Foundations, Algorithms, and Applications by Haibo He

★★★★☆ 4 out of 5

Language	: English
File size	: 9122 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Print length	: 340 pages
Lending	: Enabled

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Key Features of the Book

- **Solid Theoretical Foundations:** The book establishes a strong theoretical foundation for imbalanced learning, covering topics such as random sampling, algorithmic bias, and performance evaluation metrics. This foundation enables readers to understand the underlying principles and limitations of different algorithms.

- **Cutting-Edge Algorithms:** It presents a wide range of cutting-edge algorithms specifically designed for imbalanced learning, including oversampling, undersampling, cost-sensitive learning, and ensemble methods. Each algorithm is explained in detail, providing both theoretical insights and practical implementation guidelines.

- **Real-World Applications:** The book showcases the practical applications of imbalanced learning in various domains, such as fraud detection, medical diagnosis, and image processing. It offers practical examples and case studies to demonstrate the effectiveness of different algorithms in real-world scenarios.

- **Comprehensive Code Repository:** To facilitate the practical implementation of the algorithms, the book provides a comprehensive code repository. This repository contains code examples in various programming languages, allowing readers to quickly test and apply the algorithms to their own datasets.

Target Audience

This book is meticulously crafted for a wide range of readers, including:
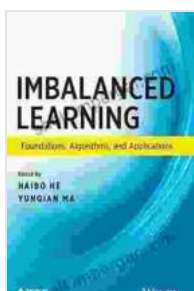
- **Researchers:** Researchers seeking to advance the state-of-the-art in imbalanced learning will find the book an invaluable resource for

understanding the latest algorithms and theoretical developments.

- **Practitioners:** Practitioners working on real-world machine learning projects will gain practical guidance on selecting and implementing the most appropriate algorithms for imbalanced datasets.

- **Students:** Graduate and advanced undergraduate students in computer science, data science, and related fields will benefit from the book's comprehensive coverage of imbalanced learning as a core component of their studies.

"Imbalanced Learning: Foundations, Algorithms, and Applications" is an indispensable guide for anyone seeking to master the complexities of imbalanced data. It provides a comprehensive foundation, cutting-edge algorithms, and practical applications, empowering readers to develop robust models that accurately handle imbalanced data distributions. By mastering the techniques presented in this book, readers can unlock the full potential of machine learning algorithms and make more accurate predictions in the presence of imbalanced data, ultimately contributing to more informed decision-making and enhanced outcomes across various domains.

Free Download your copy today and embark on a transformative journey into the fascinating world of imbalanced learning!

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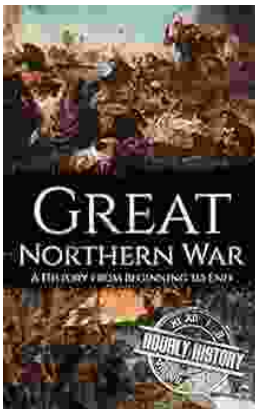Lending   : Enabled

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