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Titolo	Computational Intelligence for High-Dimensional Machine Learning : A Feature Selection Perspective and Its Real-World Applications / / by Yu Zhou, Xiao Zhang, Sam Kwong
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Collana	SpringerBriefs in Computer Science, , 2191-5776
Disciplina	006.3
Soggetti	Artificial intelligence Machine learning Computers and civilization Computer science Application software Artificial Intelligence Machine Learning Computers and Society Theory and Algorithms for Application Domains Computer and Information Systems Applications
Lingua di pubblicazione	Inglese
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Nota di contenuto	Introduction of High Dimensional Machine Learning -- Feature selection and computational Intelligence Methods -- Evolutionary algorithm based global feature selection -- Evolutionary algorithm based local feature selection -- Deep neural network based hybrid feature selection -- Real-world case study -- Conclusions.
Sommario/riassunto	This book focuses on the modelling and optimization aspects of the feature selection problem through computational intelligence methods in complex, high-dimensional supervised machine learning. To aid readers in conducting research in this field, it covers fundamental concepts and state-of-the-art algorithms. This book also provides a detailed insight into applying these algorithms into real-world applications. The authors begin by introducing the definition high-

dimensional machine learning (ML) problems and the challenges they pose. Subsequently, they delve into dimension reduction methods for high-dimensional ML, including global and local feature selection (FS) techniques. This book also comprehensively presents computational intelligence methods such as evolutionary computation and deep neural networks for FS, supported by both theoretical and empirical evidence. Furthermore, this book explores real-world scenario applications involving high-dimensional ML, particularly in the context of smart cities, bioinformatics and industrial informatics. This book is a suitable read for postgraduates and researchers who are interested in the research areas of computational intelligence, soft computing, machine learning and deep learning. Professionals and practitioners within these related fields will also benefit from this book.