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Titolo	Beginning Anomaly Detection Using Python-Based Deep Learning : With Keras and PyTorch / / by Sridhar Alla, Suman Kalyan Adari
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1: What is Anomaly Detection? -- Chapter 2: Traditional Methods of Anomaly Detection -- Chapter 3: Introduction to Deep Learning -- Chapter 4: Autoencoders -- Chapter 5: Boltzmann Machines -- Chapter 6: Long Short-Term Memory Models -- Chapter 7: Temporal Convolutional Network -- Chapter 8: Practical Use Cases of Anomaly Detection -- Appendix A: Introduction to Keras -- Appendix B: Introduction to PyTorch.
Sommario/riassunto	Utilize this easy-to-follow beginner's guide to understand how deep learning can be applied to the task of anomaly detection. Using Keras and PyTorch in Python, the book focuses on how various deep learning models can be applied to semi-supervised and unsupervised anomaly detection tasks. This book begins with an explanation of what anomaly detection is, what it is used for, and its importance. After covering statistical and traditional machine learning methods for anomaly detection using Scikit-Learn in Python, the book then provides an introduction to deep learning with details on how to build and train a deep learning model in both Keras and PyTorch before shifting the

focus to applications of the following deep learning models to anomaly detection: various types of Autoencoders, Restricted Boltzmann Machines, RNNs & LSTMs, and Temporal Convolutional Networks. The book explores unsupervised and semi-supervised anomaly detection along with the basics of time series-based anomaly detection. By the end of the book you will have a thorough understanding of the basic task of anomaly detection as well as an assortment of methods to approach anomaly detection, ranging from traditional methods to deep learning. Additionally, you are introduced to Scikit-Learn and are able to create deep learning models in Keras and PyTorch. What You'll Learn: Understand what anomaly detection is and why it is important in today's world Become familiar with statistical and traditional machine learning approaches to anomaly detection using Scikit-Learn Know the basics of deep learning in Python using Keras and PyTorch Be aware of basic data science concepts for measuring a model's performance: understand what AUC is, what precision and recall mean, and more Apply deep learning to semi-supervised and unsupervised anomaly detection.