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Nota di contenuto	Machine Learning for H? Emitters Classification -- Stellar Dating Using Chemical Clocks and Bayesian Inference -- Detection of Quasi-Periodic Oscillations in Time Series of a Cataclysmic Variable Using Support Vector Machine -- Dust Extinction from Random Forest Regression of Interstellar Lines -- QSOs Selection in Highly Unbalanced Photometric Datasets: The "Michelangelo" Reverse-Selection Method -- Radio Galaxy Detection Prediction with Ensemble Machine Learning -- A Machine Learning Suite to Halo-Galaxy Connection -- New Applications of Graph Neural Networks in Cosmology -- Detection of Point Sources in Maps of the Temperature Anisotropies of the Cosmic Microwave Background -- Reconstruction and Particle Identification with CYGNO Experiment -- Event Reconstruction for Neutrino Telescopes --

Classification of Evolved Stars with (Unsupervised) Machine Learning
Post Proceedings -- Patterns in the Chaos: An Unsupervised View of
Galactic Supernova Remnants -- Clustering of Galaxy Spectra: An
Unsupervised Approach with Fisher-EM -- Unsupervised Classification
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-- Classifying Gamma-Ray Burst X-Ray Afterglows with a Variational
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Active Galactic Nuclei -- Classification of System Variability Using A
CNN -- Deep Learning Processing and Analysis of Mock Astrophysical
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Citizen Science and Machine Learning: Towards a Robust Large-Scale
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Through Convolutional Neural Network Trained with Images of
Observed Gamma-Ray Events -- Federated Learning Meets HPC and
Cloud -- Integration and Deployment of Model Serving Framework at
Production Scale -- Predictive Maintenance for Array of Cherenkov
Telescopes.

Sommario/riassunto

This book reviews the state of the art in the exploitation of machine learning techniques for the astrophysics community and gives the reader a complete overview of the field. The contributed chapters allow the reader to easily digest the material through balanced theoretical and numerical methods and tools with applications in different fields of theoretical and observational astronomy. The book helps the reader to really understand and quantify both the opportunities and limitations of using machine learning in several fields of astrophysics.
