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Descrizione fisica	1 online resource (VIII, 258 p. 86 illus., 81 illus. in color.)
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Nota di contenuto	Introduction -- Multivariate pattern analysis of whole-brain functional connectivity in major depression -- Discriminative analysis of nonlinear functional connectivity in schizophrenia -- Predicting individual brain maturity using window-based dynamic functional connectivity -- Locally linear embedding of functional connectivity for classification -- Locally linear embedding of anatomical connectivity for classification -- Locality preserving projection of functional connectivity for regression -- Intrinsic discriminant analysis of functional connectivity for multi-class classification -- Sparse representation of dynamic functional connectivity in depression -- Low-rank learning of functional connectivity reveals neural traits of individual differences -- Multi-task learning of structural MRI for multi-site classification -- Deep discriminant auto-encoder network for multi-site fMRI classification.
Sommario/riassunto	This book presents recent advances in pattern analysis of the human connectome. The human connectome, measured by magnetic resonance imaging at the macroscale, provides a comprehensive description of how brain regions are connected. Based on machine learning methods, multiviarate pattern analysis can directly decode psychological or cognitive states from brain connectivity patterns.

Although there are a number of works with chapters on conventional human connectome encoding (brain-mapping), there are few resources on human connectome decoding (brain-reading). Focusing mainly on advances made over the past decade in the field of manifold learning, sparse coding, multi-task learning, and deep learning of the human connectome and applications, this book helps students and researchers gain an overall picture of pattern analysis of the human connectome. It also offers valuable insights for clinicians involved in the clinical diagnosis and treatment evaluation of neuropsychiatric disorders.