1. Record Nr. UNINA9910483163803321

Titolo	Connectomics in NeuroImaging : First International Workshop, CNI 2017, Held in Conjunction with MICCAI 2017, Quebec City, QC, Canada, September 14, 2017, Proceedings / / edited by Guorong Wu, Paul Laurienti, Leonardo Bonilha, Brent C. Munsell
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-67159-6
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (VIII, 171 p. 67 illus.)
Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics, , 3004-9954 ; ; 10511
Disciplina	612.82
Soggetti	Computer vision Artificial intelligence Computer graphics Pattern recognition systems Computer engineering Computer networks Computer science - Mathematics Discrete mathematics Computer Vision Artificial Intelligence Computer Graphics Automated Pattern Recognition Computer Engineering and Networks Discrete Mathematics in Computer Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Intro -- Preface -- Organization -- Contents -- Connectome of Autistic Brains, Global Versus Local Characterization -- 1 Introduction -- 1.1 Connectomes and Autism Spectrum Disorder -- 1.2 Global Metrics -- 1.3 Local Connectivity Differences -- 2 Methods -- 3 Data and Experimental Settings -- 3.1 Pre-processing and Connectome

Construction -- 3.2 Experimental Settings -- 4 Results and Discussions -- 5 Conclusion -- References -- Constructing Multi-frequency High-Order Functional Connectivity Network for Diagnosis of Mild Cognit ... -- Abstract -- 1 Introduction -- 2 Methods -- 2.1 Multi-frequency High-Order FC Networks -- 2.2 Feature Extraction and Classification -- 3 Experiments -- 3.1 Data -- 3.2 Performance Evaluation -- 3.3 Intra-spectrum and Inter-spectrum HONs -- 4 Conclusion -- Acknowledgements -- References -- Consciousness Level and Recovery Outcome Prediction Using High-Order Brain Functional Connectivity N ... -- Abstract -- 1 Introduction -- 2 Materials -- 3 High-Order BFCN Construction -- 4 Experiments -- 5 Conclusion -- Acknowledgements -- References -- Discriminative Log-Euclidean Kernels for Learning on Brain Networks -- 1 Introduction -- 2 Methods and Materials -- 2.1 Subjects -- 2.2 Image Data -- 2.3 Image Processing -- 2.4 Brain Network Construction -- 2.5 Gaussian Process Classification -- 2.6 The Discriminative Log-Euclidean Kernel -- 2.7 Impementation Details -- 2.8 Classification Experiments -- 2.9 Group Difference Experiments -- 3 Results and Discussion -- 4 Conclusions -- References -- Interactive Computation and Visualization of Structural Connectomes in Real-Time -- 1 Introduction -- 2 Methods -- 2.1 Structural Connectivity -- 3 Visualization -- 4 Results -- 5 Discussion -- 6 Conclusion -- References.
Pairing-based Ensemble Classifier Learning using Convolutional Brain Multiplexes and Multi-view Brain Networks for Early Dementia Diagnosis -- 1 Introduction -- 2 Ensemble Classifier Using Paired CCA-Mapped Convolutional Brain Mutliplexes for eMCI/NC Classification -- 3 Results and Discussion -- 4 Conclusion -- References -- High-order Connectomic Manifold Learning for Autistic Brain State Identification -- 1 Introduction -- 2 High-Order Connectomic Manifold Learning for Unsupervised Clustering of Autistic and Healthy Brains -- 3 Results and Discussion -- 4 Conclusion -- References -- A Unified Bayesian Approach to Extract Network-Based Functional Differences from a Heterogeneous Patient Cohort -- 1 Introduction -- 2 Generative Model of Abnormal Communities -- 3 Population Study of Autism -- 4 Conclusion -- References -- FCNet: A Convolutional Neural Network for Calculating Functional Connectivity from Functional MRI -- 1 Introduction -- 2 Method -- 2.1 Data and Preprocessing -- 2.2 Functional Connectivity Through FCNet -- 2.3 Feature Selection and Classification -- 3 Experiments and Results -- 4 Conclusion -- References -- Identifying Subnetwork Fingerprints in Structural Connectomes: A Data-Driven Approach -- Abstract -- 1 Introduction -- 2 Materials and Methods -- 2.1 Participants, MRI Acquisition, and Connectome Reconstruction -- 2.2 Subnetwork Feature -- 2.3 Person Identification Model and Performance Evaluation -- 2.4 Feature Selection and Majority Vote Subnetwork Feature -- 3 Results -- 4 Discussion -- 5 Conclusion -- Acknowledgement -- References -- A Simple and Efficient Cylinder Imposter Approach to Visualize DTI Fiber Tracts -- Abstract -- 1 Introduction -- 2 Proposed Method -- 2.1 Cylinder Imposter -- 2.2 End Imposter -- 3 Experiments -- 4 Limitations -- 5 Conclusion -- 6 Implementation -- References.
Revisiting Abnormalities in Brain Network Architecture Underlying Autism Using Topology-Inspired Statistical Inference -- 1 Introduction -- 2 Technical Background -- 2.1 Structural Covariance Network -- 2.2 Graph Filtration -- 2.3 Statistical Inference -- 3 Methods -- 3.1 Data Preprocessing -- 3.2 Structural Covariance Networks and Statistical Inference -- 4 Results -- 5 Conclusion and Discussion -- References -- "Evaluating Acquisition Time of rfMRI in the Human Connectome Project for Early Psychosis. How Much ... -- Abstract -- 1 Introduction

Sommario/riassunto

This book constitutes the refereed proceedings of the First International Workshop on Connectomics in NeuroImaging, CNI 2017, held in conjunction with MICCAI 2017 in Quebec City, Canada, in September 2017. The 19 full papers presented were carefully reviewed and selected from 26 submissions. The papers deal with new advancements in network construction, analysis, and visualization techniques in connectomics and their use in clinical diagnosis and group comparison studies as well as in various neuroimaging applications.