

1. Record Nr.	UNINA9910483851403321
Titolo	Deep Learners and Deep Learner Descriptors for Medical Applications / / edited by Loris Nanni, Sheryl Brahnam, Rick Brattin, Stefano Ghidoni, Lakhmi C. Jain
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-42750-1
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (286 pages)
Collana	Intelligent Systems Reference Library, , 1868-4394 ; ; 186
Disciplina	610.28
Soggetti	Computational intelligence Artificial intelligence Medical informatics Biomedical engineering Computational Intelligence Artificial Intelligence Health Informatics Biomedical Engineering and Bioengineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	This book introduces readers to the current trends in using deep learners and deep learner descriptors for medical applications. It reviews the recent literature and presents a variety of medical image and sound applications to illustrate the five major ways deep learners can be utilized: 1) by training a deep learner from scratch (chapters provide tips for handling imbalances and other problems with the medical data); 2) by implementing transfer learning from a pre-trained deep learner and extracting deep features for different CNN layers that can be fed into simpler classifiers, such as the support vector machine; 3) by fine-tuning one or more pre-trained deep learners on an unrelated dataset so that they are able to identify novel medical datasets; 4) by fusing different deep learner architectures; and 5) by combining the above methods to generate a variety of more elaborate

ensembles. This book is a value resource for anyone involved in engineering deep learners for medical applications as well as to those interested in learning more about the current techniques in this exciting field. A number of chapters provide source code that can be used to investigate topics further or to kick-start new projects. .
