

1. Record Nr.	UNINA9910983063703321
Autore	Melin Patricia
Titolo	Type-3 Fuzzy Logic and Fractal Theory for Medical Diagnosis / / by Patricia Melin, Oscar Castillo
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	9783031816550 3031816552
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (117 pages)
Collana	SpringerBriefs in Computational Intelligence, , 2625-3712
Altri autori (Persone)	CastilloOscar
Disciplina	006.3
Soggetti	Computational intelligence Engineering mathematics Biomedical engineering Computational Intelligence Engineering Mathematics Biomedical Engineering and Bioengineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Introduction to Type-3 Fuzzy-Fractal Medical Diagnosis -- Chapter 2. A Type-3 Fuzzy-Fractal Approach for Tuberculosis Diagnosis -- Chapter 3. A Type-3 Fuzzy-Fractal Approach for Bone Analysis in Osteoporosis Diagnosis -- Chapter 4. A Type-3 Fuzzy-Fractal Approach for Leukemia Cancer Diagnosis.-Chapter 5. A Type-3 Fuzzy-Fractal Approach for Diagnosis of Vascular Diseases based on Cardiac Vessels -- Chapter 6. A Type-3 Fuzzy-Fractal Approach for Diagnosis of Mental Disorders -- Chapter 7. A Type-3 Fuzzy-Fractal Approach for Diagnosis of Vascular Diseases based on Cerebral Vessels -- Chapter 8. Conclusions of Type-3 Fuzzy-Fractal Medical Diagnosis.
Sommario/riassunto	This book is intended to be a reference for scientists and engineers interested in applying type-3 fuzzy logic and fractal theory techniques in medical diagnosis. In this book, a new model based on type-3 fuzzy logic and fractal theory for applications in medical diagnosis is presented. The main idea is that a higher type and order of fuzzy logic can help in solving various diagnosis problems and find better results. In addition, fractal theory is also employed for enhancing medical

diagnosis. In this regard, several hybrid intelligent methods are offered. In this book, the authors test the proposed methods using several medical diagnosis problems, like diagnosis of problems in the brain, heart, lungs, and others. The authors can notice that when type-3 fuzzy systems are implemented to model the behavior of systems, the results in diagnosis are enhanced, because the management of uncertainty is better. For this reason, the authors consider in this book the proposed methods using type-3 fuzzy systems and fractal theory to improve the diagnosis in complex medical problems.
