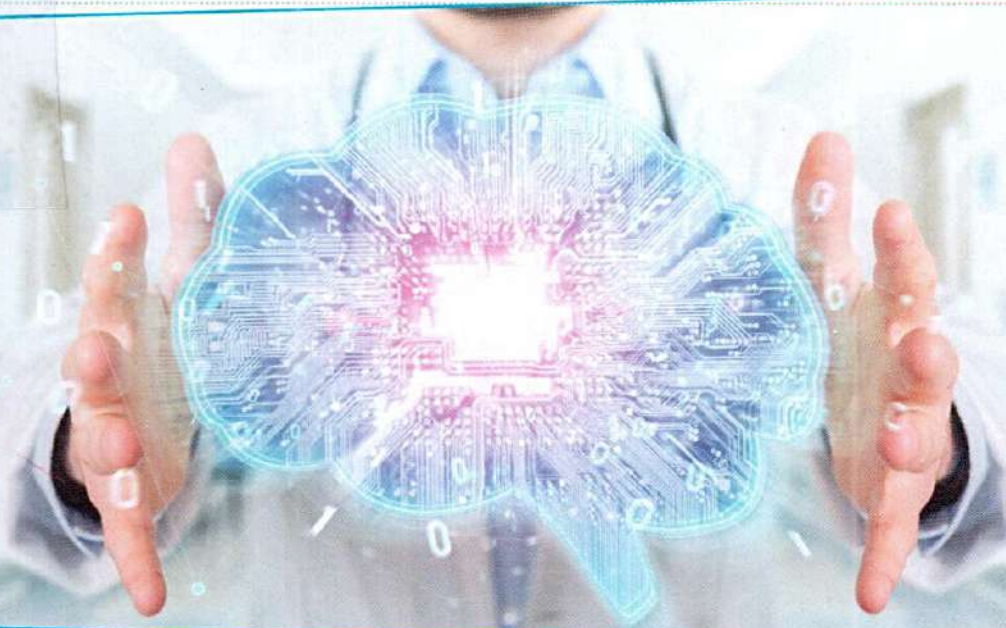


Intelligence-Based Medicine

Artificial Intelligence and Human Cognition
in Clinical Medicine and Healthcare



Anthony C. Chang



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Intelligence-Based Medicine

Artificial Intelligence and Human Cognition in Clinical Medicine and Healthcare

Anthony C. Chang, MD, MBA, MPH, MS

Intelligence-Based Medicine: Artificial Intelligence and Human Cognition in Clinical Medicine and Healthcare provides a multidisciplinary and comprehensive survey of artificial intelligence concepts and methodologies with real life applications in healthcare and medicine. Authored by a senior physician-data scientist, the book presents an intellectual and academic interface between the clinical medicine and the data science domains that is uniquely balanced and pragmatic.

The content consists of basic concepts of artificial intelligence and its real-life applications in a myriad of medical areas as well as in many medical and surgical subspecialties, with future projections of artificial intelligence use. The book also includes numerous insightful commentaries by world-renowned experts in key areas for their perspectives, along with a compendium of useful references (extensive glossary, key references, top articles, and best AI in healthcare companies)

The vision of the book is to inspire clinicians to embrace artificial intelligence methodologies as well as to enlighten data scientists on how to navigate the medical ecosystem in order to create a transformational paradigm for healthcare and medicine by using this emerging new technology.

Key Features

- Covers a wide range of relevant topics from deep learning, cognitive computing, natural language processing, to internet of everything and extended reality.
- Presents the concepts of artificial intelligence and its applications in an easy-to-understand format accessible to both clinicians and data scientists.
- Discusses how artificial intelligence can be utilized in a myriad of subspecialties and imagined uses in the future.
- Delineates the necessary elements for successful implementation of artificial intelligence in medicine and healthcare.

Author Biography

After his cardiology training at the Children's Hospital of Philadelphia with his research interest in mathematics and chaos theory in biomedicine, the author was an attending cardiologist in the cardiovascular intensive care unit of Boston Children's Hospital and an assistant professor at Harvard Medical School. Throughout his career as a pediatric cardiac intensive care physician, he has been interested in applications of biomedical data to decision-making. He completed his Masters of Science (MS) in Data Science with a sub-specialization in artificial intelligence from Stanford School of Medicine. He is also a computer scientist-in-residence at Chapman University. He is currently the Chief Intelligence and Innovation Officer and Medical Director of the Heart Failure Program at Children's Hospital of Orange County.

He is the founder and medical director of the Medical Intelligence and Innovation Institute (MI3) that is supported by the Sharon Disney Lund Foundation. The institute, founded in 2015, is dedicated to introduce and implement artificial intelligence in medicine and was the first institute of its kind in a hospital. He intends to build a clinician-computer scientist interface with a nascent society (the Medical Intelligence Society) and is the editor-in-chief of *Intelligence-based Medicine*, the accompanying journal for this book. He is the organizing chair for Artificial Intelligence in Medicine (AIMed) meetings around the world, the largest and most comprehensive clinician-led meetings that focus on applications of artificial intelligence in medicine and the dean of the nascent American Board of Artificial Intelligence in Medicine (ABAIM).



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