Contents

About the book ---- V Preface ---- VII Foreword ---- IX List of contributors ---- XV J. Raj Kumar, G.S.N. Koteswara Rao, Jithendar Reddy Mandhadi, G.V. Radha, Roja Rani Budha, M.V. Kiran Kumar Chapter 1 The impact of blockchain technology on the healthcare system — 1 CH.E.N. Sai Priya, Manas Kumar Yogi Chapter 2 The role of metaverse in transforming healthcare: blockchain approach —— 33 S.C. Vetrivel, T. Mohanasundaram Chapter 3 Blockchain-empowered metaverse healthcare systems and applications —— 61 Deepak Kumar, Rishabha Malviya Chapter 4 Role of artificial intelligence in disease diagnosis ---- 89 Manivannan Karunakaran, Chandrasekar Venkatachalam, Mahesh T.R., Batri Krishnan, Nagaraj S. Chapter 5 Machine learning for twinning the human body —— 105 M. Ashok, T. Pandiarajan, G. Kavitha, R. Saravanan, R. Kumar

Chapter 6
Improving patient care and healthcare management using bigdata analytics presents several research challenges —— 131



Saurav Kumar Mishra, Jeba Praba J., John J. Georrge

Chapter 7

An emerging trends of bioinformatics and big data analytics in healthcare —— 159

Upinder Kaur

Chapter 8

Digital twins in medicine: leveraging machine learning for real-time diagnosis and treatment —— 189

Iram Fatima, Mehtab Alam, Ihtiram Raza Khan

Chapter 9

Nanorobots in healthcare ---- 209

Chirag Vashisht, Rohit Kaushik, Eva Kaushik

Chapter 10

Semantic-based approach for medical cyber-physical system (MCPS) with biometric authentication for secured privacy —— 237

Pragya Mishra, Jayashree J., Vijayashree J., Prith Sharma

Chapter 11

Integration of cognitive computing and AI for smart healthcare —— 267

Anupama Angadi, Muralidhara Rao Patruni, Satya Keerthi Gorripati, Saraswathi Pedada

Chapter 12

An overview of recommender systems in the healthcare domain: significant contributions, challenges, and future scope —— 293

Shasank Kamineni, Meghana Tummala, Sai Yasheswini Kandimalla, Tejodbhav Koduru, V. M. Manikandan

Chapter 13

Advancements and challenges of using natural language processing in the healthcare sector —— 317

Babita Gupta, Rishabha Malviya, Sonali Sundram

Chapter 14

Intraocular pressure monitoring system for glaucoma patients using IoT and machine learning —— 343

Jaya Singh, Ranjana Rajnish, Deepak Kumar Singh
Chapter 15
A machine learning approach to voice analysis in Parkinson's disease diagnosis —— 365

Index ---- 375