

# Contents

**Preface — V**

**About the editors — XV**

**List of contributors — XVII**

Leena Sharma

- 1 Application of rough set theory to analyze primary parameters causing death in COVID-19 patients — 1**

Khadim Kébé

- 2 From Wuhan to Africa: insights into the genome of the SARS-CoV-2 — 17**

Shawni Dutta, Samir Kumar Bandyopadhyay

- 3 Analysis of divergence aspects of breast in breast cancer patients that change due to COVID-19 — 31**

Mutiu Iyanda Lasisi, Umar Olansile Ajetunmobi, Abdul Ganiyy Gbolagade Adiamoh

- 4 The correlates among containment, management and public interest indicators of COVID-19 in Nigeria: managerial and policy implications for stakeholders — 57**

Anupriya Pandey, Pragya Katyayan, Nisheeth Joshi

- 5 Effect of lockdown during the COVID-19 pandemic using mathematical modeling: a quantitative study — 75**

Arushi Uppal, Utkarsh Sharma, Bharat Bhushan

- 6 Flattening the curve of COVID-19 outbreak by early forecasting — 95**

Deepak Pachpatte

- 7 Analysis and forecasting of COVID-19 infections in India using ARIMA model — 121**

Nure Naushin Sharmy

- 8 Effectiveness of machine learning in predicting the spread of COVID-19 — 131**

Anupriya Pandey, Pragya Katyayan, Nisheeth Joshi

- 9 Mathematical modeling of the transmission dynamics of novel coronavirus: an India-specific study — 151**

Pinto Kumar Paul, Subrato Bharati, Prajoy Podder,  
M. Rubaiyat Hossain Mondal

- 10 The role of IoMT during pandemics — 169**

Sunanda Dixit, J. Mahalakshmi, Riya Mahesh

- 11 Internet of medical things approach to COVID-19 — 187**

Subrato Bharati, M. Rubaiyat Hossain Mondal

- 12 Applications and challenges of AI-driven IoHT for combating pandemics: a review — 213**

Rutwik Patel, Ninad Mehendale

- 13 Deep learning on medical images to combat a pandemic — 231**

Sohaib Asif, Wenhui Yi, Jin Hou, Tao Yi, Jinhai Si

- 14 Deep convolutional neural network for the classification of COVID-19 from chest X-ray images — 259**

Sunita S. Chauhan, Sweta A. Dargad

- 15 Deep learning for analysis of COVID-19 electronic health records — 293**

**Index — 319**