

1. Record Nr.	UNINA9910495348203321
Titolo	Artificial intelligence for COVID-19 // Diego Oliva, Said Ali Hassan, Ali Mohamed, editors
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-69744-4
Descrizione fisica	1 online resource (585 pages)
Collana	Studies in systems, decision and control ; ; 358
Disciplina	610.285
Soggetti	COVID-19 Intel·ligència artificial en medicina Processament de dades Artificial intelligence - Medical applications Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Contents -- Simulation of the Relation Between the Number of COVID-19 Death Cases as a Result of the Number of Handwashing Facilities by Using Artificial Intelligence -- 1 Literature Review -- 2 Aim of the Research -- 2.1 Statement of the Problem -- 2.2 Research Methodology -- 2.3 Research Setting and Research Paradigm -- 2.4 Limitations of the Method -- 3 Results and Discussion -- 4 Conclusion -- References -- Big Data and Data Analytics for an Enhanced COVID-19 Epidemic Management -- 1 Introduction -- 2 Big Data and Big Data Analytics for COVID-19 -- 2.1 Big Data Analytics Life Cycle -- 3 The Opportunities of Big Data and Big Data Analytics in COVID-19 Pandemic -- 4 Challenges of Big Data and Big Data Analytics During COVID-19 Pandemic -- 5 Conclusion -- References -- Application of COVID-19 Pandemic Using Artificial Intelligence -- 1 Introduction -- 2 Premature Detection of the Coronavirus (COVID-19) -- 3 Succinct Review on Transferable Syndrome Outburst in the Year 2020 -- 4 Applications of Artificial Intelligence in COVID-19 Pandemic -- 4.1 Premature Detection and Diagnosis of Infection -- 4.2 Protrusion of Suitcases

and Transience -- 4.3 Progress of Drugs and Vaccines -- 4.4 Tumbling the Work of Healthcare Employees -- 5 The Original AI Capability of Bluedot and Metabiota -- 5.1 Bluedot -- 5.2 Metabiota -- 6 Conclusion -- References -- Application of Artificial Intelligence for COVID-19 Epidemic: An Exploratory Study, Opportunities, Challenges, and Future Prospects -- 1 Introduction -- 2 Artificial Intelligence (AI) Techniques in COVID-19 Outbreak -- 3 The Applicability of Artificial Intelligence During COVID-19 Pandemic -- 4 The Challenges Applying Artificial Intelligence During COVID-19 Pandemic -- 5 Conclusion -- References -- Diagnosing COVID-19 Virus in the Cardiovascular System Using ANN -- 1 Introduction. 1.1 Electrocardiography -- 1.2 Cardiovascular Risk Factors Associated with the Worse Outcomes of COVID-19 -- 2 COVID-19 Cardiovascular Manifestations -- 2.1 COVID-19 and Cardiac Arrhythmia -- 2.2 COVID-19 Myocardial Injury and Heart Failure -- 2.3 COVID-19 and Myocarditis -- 2.4 Variability in Heart Rate -- 2.5 COVID-19 and Ischemic Heart Disease -- 3 Results and Discussion -- 4 Results from Artificial Neural Network -- 5 Conclusion -- References -- An Efficient Mixture of Deep and Machine Learning Models for COVID-19 and Tuberculosis Detection Using X-Ray Images in Resource Limited Settings -- 1 Introduction -- 2 Methodology -- 2.1 COVID-19 5-Class Balanced Dataset -- 2.2 The Pipeline of Deep Feature Extraction from Pretrained Networks and Machine Learning Classification -- 2.3 Performance Evaluation of the Proposed COVID-19 Detection Pipeline -- 3 Results -- 4 Discussion -- 5 Conclusion -- References -- Understanding Role of Information and Communication Technology Application in Vietnam's Prevention and Control of COVID-19 Pandemic -- 1 Introduction -- 2 Literature Review -- 3 The Role of the Communication in Propagating Against COVID-19 in Vietnam -- 4 The Role of Information Technology Application in Warning and Detecting COVID-19 Patients -- 4.1 The Role of Information Technology in Digitizing Public Services Towards Reducing Risk of Infection -- 5 Discussion and Conclusion -- 6 Study Limitations and Contributions -- References -- Robotics and Automation: The Rescuers of COVID Era -- 1 Introduction -- 2 Importance of Robotics and Automation During Coronavirus -- 3 Applications of Robotics & Automation -- 3.1 Applications (Pre- COVID) -- 3.2 Applications (Post- COVID) -- 4 Problems Associated with Robotics & Automation -- 5 Types of Robotics and Automation. 6 Different Applications for Which Robots Are Used All Over World During Coronavirus -- 7 Future Development and Investment on Robotics -- 8 Conclusions and Suggestions -- References -- Nonparametric Tests for Comparing COVID-19 Machine Learning Forecasting Models -- 1 Introduction -- 2 Challenges of Forecasting of COVID-19 Outbreak -- 2.1 Forecasting Models for COVID-19 Outbreak -- 2.2 Nonparametric Methods for Comparing Forecast Models -- 3 Klyushin-Petunin Nonparametric Test for Homogeneity -- 4 Estimation of Forecast Model Using the P-Statistics -- 5 Conclusion and Scope for the Future Work -- References -- Artificial Intelligence and the Control of COVID-19: A Review of Machine and Deep Learning Approaches -- 1 Introduction -- 2 Knowledge Areas of AI in COVID-19 Control -- 2.1 Prediction, Tracking and Social Control -- 2.2 Cures and Treatments -- 2.3 Prognosis and Diagnosis -- 2.4 Data Dashboards -- 3 Generalized AI Response to COVID-19 -- 4 Challenges -- 4.1 Small Data Sample Size -- 4.2 Daily Case of Occurrences -- 4.3 Overlapping of Disease Symptoms -- 4.4 Need for Robust and Effective for COVID-19 -- 5 Conclusion -- References -- Optimization of the International Trade Activities in the Period

of COVID-19 by Proposing an Algorithm -- 1 Introduction -- 2 Application Model in International Exchange for the Proper Management of the COVID-19 Containment Period -- 3 Principle of Operation of the Optimization Model in International Trade -- 3.1 Taking Quality into Account in Flows -- 3.2 Deterministic Model-Wait and See (WS) -- 4 The Application's Algorithm for Optimizing the Operations of International Trade Companies -- 4.1 The Algorithm -- 4.2 Discussion and Interpretation -- 5 Conclusion -- References -- Internet of Things (IoT) and Real Time Applications -- 1 Introduction and Key Discoveries.

1.1 Year-on-Year Utilization of IoT Stages by Industry -- 1.2 IoT Safekeeping and Information Secrecy -- 2 Malware Recognition Methods -- 2.1 IoT Precautions Code of Behaviors -- 2.2 Confidentiality in IoT -- 3 Real Time Application of IoT -- 3.1 A Real Time IoT-Based Wearable Communication Enabled Jacket to Monitor and Analyze the COVID-19 -- 3.2 Microstrip Patch Antennas -- 3.3 Block Diagram of Navigation System -- 4 Conclusion -- References -- Optimum Scheduling of the Disinfection Process for COVID-19 in Public Places with a Case Study from Egypt, a Novel Discrete Binary Gaining-Sharing Knowledge-Based Metaheuristic Algorithm -- 1 Introduction -- 2 Disinfection Scheduling Strategies for Public Places -- 3 Mathematical Model Formulation for the Disinfection Scheduling Strategies -- 3.1 Mathematical Model -- 4 A Real Application Case Study: Educational Institutions, Cairo, Egypt -- 5 The Proposed Methodology -- 5.1 Gaining Sharing Knowledge-Based Optimization Algorithm (GSK) -- 5.2 Discrete Binary Gaining Sharing Knowledge-Based Optimization Algorithm (DBGSK) -- 6 Experimental Results -- 7 Conclusions and Points for Future Researches -- References -- Predicating COVID19 Epidemic in Nepal Using the SIR Model -- 1 Introduction -- 2 Materials and Methods -- 2.1 Study Area -- 2.2 Data Collection -- 2.3 Methods -- 3 Results -- 4 Discussion -- 5 Conclusions -- References -- Feature Extraction of Coronavirus X-Ray Images by RNN, Correlational Networks, and PNN -- 1 Introduction -- 2 Related Work -- 3 About Coronavirus X-Ray Images -- 3.1 A Common Finding of CT Images -- 3.2 Changes in Chronological CT -- 4 Methodology -- 5 Implementation -- 5.1 Dataset -- 5.2 Evaluation Metrics -- 6 Discussion -- 7 Conclusion -- 8 Future Enhancement -- References -- Text Mining for Covid-19 Analysis in Latin America -- 1 Introduction -- 1.1 Covid-19 Outbreak in the World. 1.2 Covid-19 in Latin America -- 1.3 Text Mining Applications -- 1.4 Research in Latin America -- 1.5 PubMed -- 2 NLP Applied to South America -- 2.1 March -- 2.2 April -- 2.3 May -- 2.4 June -- 2.5 July -- 3 NLP Applied to Central America -- 4 NLP Applied to North America -- 5 Conclusions -- 6 Future Work -- References -- Spread of COVID-19 in Odisha (India) Due to Influx of Migrants and Stability Analysis Using Mathematical Modeling -- 1 Introduction -- 2 Mathematical Modeling and Basic Assumptions -- 2.1 Basic Assumptions -- 2.2 Existence of Boundedness and Positive Invariant of the Solutions -- 2.3 Basic Reproduction Number and Existence of Equilibrium -- 2.4 Local Stability Analysis -- 2.5 Global Stability for the Endemic Equilibrium -- 3 Interpretation of the Numerical Results -- 4 Conclusion -- References -- COVID-19 Epidemic Analysis and Prediction in Virudhunagar District Using Machine Learning -- 1 Introduction -- 1.1 Preventive Measures -- 2 Coronavirus Pandemic in Virudhunagar District, Tamilnadu Literature -- 2.1 History of Virudhunagar -- 2.2 Significance of the Study -- 2.3 Review of Literature -- 3 Materials and Methods -- 3.1 Data Collection -- 3.2 Data Preprocessing -- 3.3 Machine Learning Classifiers -- 4 Results and Discussions -- 4.1 Data

Visualization of Sivakasi and Virudhunagar -- 4.2 Infection Rate Growth Phase -- 4.3 Reasons and Outbreaks -- 5 Conclusion -- References -- Internet of Things and Covid-19 Safety Precautions: Roles of Information Communication Technology in Health Emergency Control for Global Development -- 1 Introduction -- 2 Methodology -- 3 Review of Literature -- 4 History of IoT and IoMT -- 5 IoT and IoMT as a Technology-Based Tool for Treatment -- 5.1 Internet of Medical Things (IoMT) -- 6 Usefulness of IoT -- 7 Problems Faced by IoMT -- 8 Corona Virus or Covid-19 -- 9 Effects of Corona Virus. 10 Safety Precautions During Covid-19.
