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Altri autori (Persone)	FongSimon James
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Soggetti	Biomedical engineering Therapeutics Diagnosis Diseases Biophysics Biomedical Engineering and Bioengineering Bioanalysis and Bioimaging
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Nota di contenuto	Clinical impact of automatic diagnostic systems -- Lung segmentation from XRay -- Lung segmentation from CT Scan -- Covid Automatic Diagnostic based on XRay -- Covid Automatic Diagnostic based on CTScan -- Cardiovascular analysis of covid patients based on ECG -- Cognitive analysis of covid patients based on EEG -- AI Controlled Mechanical Ventilator for COVID-19 patients.
Sommario/riassunto	This book describes the application of signal and image processing technologies, artificial intelligence, and machine learning techniques to support Covid-19 diagnosis and treatment. The book focuses on two main applications: critical diagnosis requiring high precision and speed, and treatment of symptoms, including those affecting the cardiovascular and neurological systems. The areas discussed in this book range from signal processing, time series analysis, and image segmentation to detection and classification. Technical approaches include deep learning, transfer learning, transformers, AutoML, and other machine learning techniques that can be considered not only for

Covid-19 issues but also for different medical applications, with slight adjustments to the problem under study. The Covid-19 pandemic has impacted the entire world and changed how societies and individuals interact. Due to the high infection and mortality rates, and the multiple consequences of the virus infection in the human body, the challenges were vast and enormous. These necessitated the integration of different disciplines to address the problems. As a global response, researchers across academia and industry made several developments to provide computational solutions to support epidemiologic, managerial, and health/medical decisions. To that end, this book provides state-of-the-art information on the most advanced solutions.
