Unveiling the Influence of Artificial Intelligence on Advancements in Respiratory Care: An In-depth Literature Review

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Abstract

Background: This paper delves into a comprehensive review of the various venues where artificial intelligence (AI)-based services are seamlessly integrated into operations, with a focus on the key elements that contribute to the success of AI-driven services across various scopes of practice in respiratory care.

Objective: This paper delves into a comprehensive review of the various venues where artificial intelligence (AI)-based services are seamlessly integrated into operations, with a focus on the key elements that contribute to the success of AI-driven services across various scopes of practice in respiratory care.

Methods: We have conducted a comprehensive search of the literature to examine the latest advancements in the use of artificial intelligence within the field of Respiratory Care his search was independently conducted by experts in the field of respiratory care, each focusing on their respective scope of practice and area of interest

Results: The paper illuminates the diverse application of AI, highlighting its use in areas associated with respiratory care. AI is harnessed across diverse areas of respiratory care, including pulmonary diagnostics, research and innovation in respiratory therapy, pulmonary rehabilitation, telehealth, public health, and health promotion, sleep clinics, home care, studies on smoking or vaping behavior, critical care/mechanical ventilation and neonatal and pediatric care. ai, with its multifaceted utility, can revolutionize the field of respiratory care, potentially leading to superior health outcomes for individuals under the extensive umbrella of respiratory care services.

Conclusions: As AI advances, elevating academic standards in the respiratory care profession becomes imperative, allowing practitioners to contribute to research and understand AI's impact on cardiopulmonary medicine. The integration of AI is irreversible, emphasizing the need for RTs to influence its progression positively. By participating in AI development, RTs can augment their clinical capabilities, knowledge, and patient outcomes.

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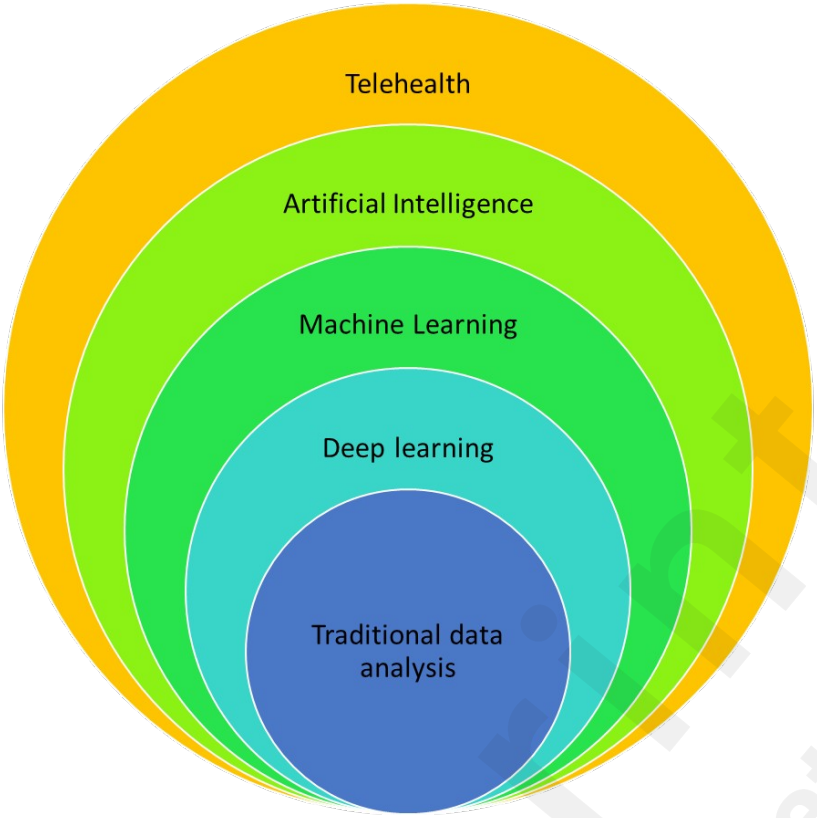

Figure 1. Telehealth umbrella includes artificial intelligence, machine learning, deep learning, and traditional data analysis.

Supplementary Files

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