Analytics-Driven Wellness (ANDREW)

Customer Benefits

ANDREW's accurate algorithm identifies, not just a single, but more than two types of health conditions. As compared to current solutions for asthma management which only identifies wheeze, ANDREW detects crepitations and stridor as well.

Technology Overview

Analytics-Driven Wellness (ANDREW) is a real-time multimodal embedded system that analyses numerous physiological signals to evaluate the current health and wellness of the user. Accurate features extracted from these signals evaluate and potentially diagnose different medical states, such as that of the common respiratory disorders like viral wheeze, bronchiolitis, asthma, Chronic Obstructive Pulmonary Disease (COPD) and croup.

ANDREW overcomes the limitations of existing rule-based solutions to provide accurate diagnosis of the fuzzy signals, with the use of machine learning and artificial intelligence techniques. Its intelligent algorithm identifies different types of conditions, rather than some current systems that focus on the management of a single condition such as asthma.

Potential Applications

• For households: Point of care diagnostic tool
• For patients: Ambulatory monitoring tool
• For healthcare professionals: Remote decision-making tool
• For workers prone to occupational exposures: Hazards monitoring tool

Features & Specifications

• Stand-alone device
• Processes data from both wired and wireless sensors
• Performs data analytics with the embedded algorithm
• Provides greater portability, security and reliability, especially where network is unpopular, heavily congested, inaccessible, or insecure
• Clinically tested with > 90% sensitivity and specificity for respiratory disorders

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