Paper ID: BMEiCON2023-001

Paper Title: The Design and Development of an AI-based Medical Laboratory Inventory Monitoring System

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Abstract

Medical laboratories play a critical role in the healthcare industry by providing essential diagnostic services to patients. However, managing inventory levels is often challenging due to various factors such as supply chain disruptions, equipment failures, or human error. To address these issues, we propose developing an artificial intelligence (AI) based system that can monitor medical laboratory inventories. This paper presents our approach to the design and development of a medical laboratory inventory monitoring system (MLIMS) using an artificial intelligence camera. Our system utilizes machine learning algorithms trained on physical characteristics of inventory, detailed package information, and related data sources. Utilize the OpenCV C++ program to create an advanced real-time object detection system, enabling the seamless monitoring and tracing of objects in dynamic environments. Overall, our work contributes towards advancing the use of AI technology in medical laboratory settings while highlighting opportunities for further research.