

Medicine Availability and Utilization Monitoring System

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Abstract : The system allows users to register and login using credentials like username, password, email, and phone number to access the medical stock management platform. The input dataset, which is in the form of a CSV file, undergoes preprocessing steps such as handling missing data and label encoding. Feature extraction is done through Principal Component Analysis (PCA), and the dataset is split into training and testing sets for model evaluation and prediction. The system utilizes a hybrid machine learning approach, combining Random Forest (RF) and Multi-Layer Perceptron (MLP) algorithms for classification tasks, and evaluates the model's performance based on metrics such as accuracy. It also features a chatbot to answer user queries and facilitate communication, along with automated reordering, expiration alerts, and weekly report generation to manage medical stock efficiently.

Keywords: Medicine Inventory, Machine Learning, PCA, Random Forest, MLP, Chatbot