MedPredict - Advanced Medical Prediction System Using RandomForest Classifier Algorithm

Authors:

1. Jashwanth G

    221121101062 [Dept :IT]

2. Anusha C

    221121101018 [Dept:IT]

Institutional Affiliation :   Dr MGR Educational And Research Institute

Presenting College :   Jerusalem College of Engineering

Department : BME

Abstract :

Early diagnosis of critical diseases is vital for effective treatment. MedPredict is an AI-powered medical prediction system that detects heart disease, diabetes, stroke, kidney disease, and hypertension using the RandomForest Classifier algorithm. The system is developed as a Streamlit-based web application with a user-friendly interface. Each disease prediction model is trained on extensive healthcare datasets to enhance accuracy.

Our methodology involves data preprocessing, feature selection, and training multiple RandomForest models to classify disease risks based on input parameters like blood pressure, glucose, cholesterol, and BMI. Additionally, an IoT integration is proposed to collect blood and urine test data, enabling real-time analysis and automated diagnostics.

The system aims to improve early disease detection and preventive healthcare by providing AI-driven diagnostic insights, reducing dependency on traditional medical tests.

Keywords: RandomForest Classifier, Disease Prediction, AI in Healthcare, IoT Diagnostics, Preventive Healthcare