

# **Project Title: Health Alert Recommendation System**

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## **Summary:-**

This project aims to predict whether a patient's lab values indicate normal health or require medical attention. A dataset of 1,000 synthetic records was used with a rule-based logic and a Decision Tree ML model. A Streamlet app was developed for real-time prediction.

## **Dataset Description**

Explain how the data was generated:

- 1,000 patient records
- Features: Blood Sugar, Haemoglobin, Cholesterol, Systolic BP, Diastolic BP
- Label: Health Alerts (Normal vs Alert)

## **Rule-Based System**

Explain the logic used for alerts:

- if blood\_sugar > 140 → High Blood Sugar
- if haemoglobin < 12 → Low Haemoglobin
- if cholesterol > 200 → High Cholesterol

## **Machine Learning Model**

- Model Used: Decision Tree Classifier
- Train-Test Split: 80/20
- Accuracy Score
- Classification Report

## **Include:**

- Confusion Matrix

## **Conclusion:**

- You built both rule-based and ML-based systems
- High accuracy on test set
- Can be used for real-time prediction and awareness

## **Future Work:**

- Add more features (age, gender, lifestyle)
- Improve model with ensemble methods

- Collect real patient data