

Heart Disease Prediction Using Machine Learning + Voice Input

A machine learning-based tool that predicts heart disease risk using patient health metrics — with voice input, risk scoring, and live feedback.

Features

- Voice input for medical parameters
- ML prediction using Random Forest
- Risk scoring system (Low, Medium, High)
- Model evaluation with ROC, confusion matrix, and feature importances
- User-friendly, interactive experience

Dataset Columns

- age, sex, chest pain type, resting bp, cholesterol, fasting blood sugar, resting ecg, max heart rate, exercise angina, oldpeak, ST slope, target

How to Run

1. Install packages
 2. Run the script
 3. Speak inputs clearly when prompted
- Some sensitive values like 1/0 may need manual typing.

Sample Output

Model Accuracy: 0.95

Prediction Result: Heart Disease Detected

Risk Score: 77.0 / 100

Risk Level: High Risk

Visuals

- Confusion Matrix
- Classification Report
- ROC Curve

- Feature Importance Chart

Future Ideas

- Streamlit Web App
- Doctor feedback integration
- Wearable device compatibility

Author

Yuvaraj Reddy

B.Tech – Artificial Intelligence & Machine Learning

GitHub: https://github.com/YOUR_USERNAME

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