% Load ECG data (replace with your data loading code)

load('ecg\_data.mat');

% Assuming 'ecg\_data' contains the ECG signals

% Preprocessing

filtered\_ecg = bandpass(ecg\_data, [0.5 40], fs); % Bandpass filtering

normalized\_ecg = (filtered\_ecg - mean(filtered\_ecg)) / std(filtered\_ecg); % Normalization

% Feature Extraction

rr\_intervals = extract\_rr\_intervals(normalized\_ecg, fs); % Extract RR intervals

features = extract\_features(rr\_intervals); % Extract relevant features

% Classification

load('trained\_classifier.mat'); % Load trained classifier (replace with your classifier)

predicted\_labels = predict(trained\_classifier, features); % Predict labels for the features

% Post-processing (analyze results, visualize, etc.)

% (Implement according to your specific requirements)