

论文与报告

ECG信号自动诊断中回归建模法特征提取的研究

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摘要

This article explores the ability of multivariate autoregressive model (MAR) and scalar AR model to extract the features from two-lead electrocardiogram signals in order to classify certain cardiac arrhythmias. The classification performance of four different ECG feature sets based on the model coefficients are shown. The data in the analysis including normal sinus rhythm, atria premature contraction, premature ventricular contraction, ventricular tachycardia, ventricular fibrillation and supraventricular tachycardia is obtained from the MIT-BIH database. The classification is performed using a quadratic discriminant function. The results show the MAR coefficients produce the best results among the four ECG representations and the MAR modeling is a useful classification and diagnosis tool.

关键词 [Autoregressive model](#) [ECG features](#) [classification](#) [automatic diagnosis](#)

分类号

Study of Feature Extraction Based on Autoregressive Modeling in ECG Automatic Diagnosis

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Abstract

This article explores the ability of multivariate autoregressive model (MAR) and scalar AR model to extract the features from two-lead electrocardiogram signals in order to classify certain cardiac arrhythmias. The classification performance of four different ECG feature sets based on the model coefficients are shown. The data in the analysis including normal sinus rhythm, atria premature contraction, premature ventricular contraction, ventricular tachycardia, ventricular fibrillation and supraventricular tachycardia is obtained from the MIT-BIH database. The classification is performed using a quadratic discriminant function. The results show the MAR coefficients produce the best results among the four ECG representations and the MAR modeling is a useful classification and diagnosis tool.

Key words [Autoregressive model](#) [ECG features](#) [classification](#) [automatic diagnosis](#)

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