Arrhythmia Data Set

Download: Data Folder, Data Set Description

Abstract: Distinguish between the presence and absence of cardiac arrhythmia and classify it in one of the 16 groups.

Data Set Characteristics:	Multivariate	**Number of Instances:**	452	**Area:**	Life
Attribute Characteristics:	Categorical, Integer, Real	**Number of Attributes:**	279	**Date Donated**	1998-01-01
Associated Tasks:	Classification	**Missing Values?**	Yes	**Number of Web Hits:**	225683

Source:

Original Owners of Database:

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Data Set Information:

This database contains 279 attributes, 206 of which are linear valued and the rest are nominal.

Concerning the study of H. Altay Guvenir: "The aim is to distinguish between the presence and absence of cardiac arrhythmia and to classify it in one of the 16 groups. Class 01 refers to 'normal' ECG classes 02 to 15 refers to different classes of arrhythmia and class 16 refers to the rest of unclassified ones. For the time being, there exists a computer program that makes such a classification. However there are differences between the cardiolog's and the programs classification. Taking the cardiolog's as a gold standard we aim to minimise this difference by means of machine learning tools."

The names and id numbers of the patients were recently removed from the database.

Attribute Information:

-- Complete attribute documentation:
1 Age: Age in years , linear
2 Sex: Sex (0 = male; 1 = female) , nominal
3 Height: Height in centimeters , linear
4 Weight: Weight in kilograms , linear
5 QRS duration: Average of QRS duration in msec., linear
6 P-R interval: Average duration between onset of P and Q waves in msec., linear
7 Q-T interval: Average duration between onset of Q and offset of T waves in msec., linear
8 T interval: Average duration of T wave in msec., linear
9 P interval: Average duration of P wave in msec., linear
Vector angles in degrees on front plane of:, linear
10 QRS
11 T
12 P
13 QRST
14 J

15 Heart rate: Number of heart beats per minute ,linear

Of channel DI:
Average width, in msec., of: linear
16 Q wave
17 R wave
18 S wave
19 R' wave, small peak just after R
20 S' wave

21 Number of intrinsic deflections, linear

22 Existence of ragged R wave, nominal
23 Existence of diphasic derivation of R wave, nominal
24 Existence of ragged P wave, nominal
25 Existence of diphasic derivation of P wave, nominal
26 Existence of ragged T wave, nominal
27 Existence of diphasic derivation of T wave, nominal

Of channel DII:
28 .. 39 (similar to 16 .. 27 of channel DI)
Of channels DIII:
40 .. 51
Of channel AVR:
52 .. 63
Of channel AVL:
64 .. 75
Of channel AVF:
76 .. 87

Of channel V1:
88 .. 99
Of channel V2:
100 .. 111
Of channel V3:
112 .. 123
Of channel V4:
124 .. 135
Of channel V5:
136 .. 147
Of channel V6:
148 .. 159

Of channel DI:
Amplitude , * 0.1 milivolt, of
160 JJ wave, linear
161 Q wave, linear
162 R wave, linear
163 S wave, linear
164 R' wave, linear
165 S' wave, linear
166 P wave, linear
167 T wave, linear

168 QRSA , Sum of areas of all segments divided by 10, (Area= width * height / 2), linear
169 QRSTA = QRSA + 0.5 * width of T wave * 0.1 * height of T wave. (If T is diphasic then the bigger segment is considered), linear

Of channel DII:
170 .. 179
Of channel DIII:
180 .. 189
Of channel AVR:
190 .. 199
Of channel AVL:
200 .. 209
Of channel AVF:
210 .. 219
Of channel V1:
220 .. 229
Of channel V2:
230 .. 239
Of channel V3:
240 .. 249
Of channel V4:
250 .. 259
Of channel V5:
260 .. 269
Of channel V6:
270 .. 279

Relevant Papers:

H. Altay Guvenir, Burak Acar, Gulsen Demiroz, Ayhan Cekin "A Supervised Machine Learning Algorithm for Arrhythmia Analysis." Proceedings of the Computers in Cardiology Conference, Lund, Sweden, 1997.
[Web Link]

Papers That Cite This Data Set[1]:

Shay Cohen and Eytan Ruppin and Gideon Dror. Feature Selection Based on the Shapley Value. School of Computer Sciences Tel-Aviv University. [View Context].

Krista Lagus and Esa Alhoniemi and Jeremias Seppa and Antti Honkela and Arno Wagner. INDEPENDENT VARIABLE GROUP ANALYSIS IN LEARNING COMPACT REPRESENTATIONS FOR DATA. Neural Networks Research Centre, Helsinki University of Technology. [View Context].

Gisele L. Pappa and Alex Alves Freitas and Celso A A Kaestner. AMultiobjective Genetic Algorithm for Attribute Selection. Computing Laboratory Pontificia Universidade Catolica do Parana University of Kent at Canterbury. [View Context].

Citation Request:

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[1] Papers were automatically harvested and associated with this data set, in collaboration with Rexa.info

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