

# Automatic recognition of congestive heart failure signs in heart rate variability data

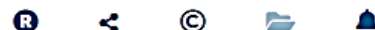
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<b>Abstract</b>	<b>Abstract:</b> Automatic screening of the population for congestive heart failure (CHF) is a matter of pressing concern due to the severity of the health consequences resulting in disability and death of people. On the one hand, portable devices working with ECG signals become convenient tools for the lay user due to the simplicity. On the other hand, analyzing the specific behavior of the R-peaks sequence (analysis of heart rate variability) in cardiac pathologies allows identifying the patterns inherent in particular heart dysfunction. Such patterns are effectively differentiated using symbolic dynamics methods and the subsequent application of machine learning methods. In this study, a highly specific model was obtained (sensitivity 0.71, specificity 0.96), suitable for automatic screening of CHF. Its operability and performance characteristics have been verified through testing in several publicly available databases.
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