Author's Accepted Manuscript

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Cite this article as: D. Zufferey, T. Hofer, J. Hennebert, M. Schumacher, R. Ingold, S. Bromuri, Performance Comparison of Multi-Label Learning Algorithms on Clinical Data for Chronic Diseases, *Computers in Biology and Medicine,* http://dx.doi.org/10.1016/j.compbiomed.2015.07.017

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Performance Comparison of Multi-Label Learning Algorithms on Clinical Data for Chronic Diseases

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Abstract

We are motivated by the issue of classifying diseases of chronically ill patients to assist physicians in their everyday work. Our goal is to provide a performance comparison of state-of-the-art multi-label learning algorithms for the analysis of multivariate sequential clinical data from medical records of patients affected by chronic diseases. As a matter of fact, the multi-label learning approach appears to be a good candidate for modeling overlapped medical conditions, specific to chronically ill patients. With the availability of such comparison study, the evaluation of new algorithms should be enhanced.

According to the method, we choose a summary statistics approach for the processing of the sequential clinical data, so that the extracted features maintain an interpretable link to their corresponding medical records. The

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