Predicting the evolution of dengue fever in a patient

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Abstract

Machine learning algorithms have delivered outstanding results within a large domain of prediction, clustering and association applications. Currently, many people in different countries, including Paraguay, are affected by the dengue fever. Because of this, we seek to prove the assertion of symptoms that a newly diagnosed dengue patient will effectively develop in the course of the illness. To do this, we apply the Support Vector Machine algorithm for the prediction task. This technique was chosen considering that it performs quite well when presented with new observations. In this paper we establish what variables are influential or representative in the diagnosed patients. Then, we forecast the progress of the disease in terms of pain, weight loss, dehydration and total recovery time. The results demonstrate that a patient can know what future condition to expect in relation to certain symptoms, according to previously observed relevant variables. For methodology evaluation purposes, an average estimate of precision is presented.

\textbf{Keywords}: Dengue, Classification, Support Vector Machines.

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