Proposal of a health care network based on big data analytics for PDs

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Abstract— Health care networks for Parkinson's disease (PD) already exist and have been already proposed in the literature, but most of them are not able to analyse the vast volume of data generated from medical examinations and collected and organised in a pre-defined manner. In this work, the authors propose a novel health care network based on big data analytics for PD. The main goal of the proposed architecture is to support clinicians in the objective assessment of the typical PD motor issues and alterations. The proposed health care network has the ability to retrieve a vast volume of acquired heterogeneous data from a Data warehouse and train an ensemble SVM to classify and rate the motor severity of a PD patient. Once the network is trained, it will be able to analyse the data collected during motor examinations of a PD patient and generate a diagnostic report on the basis of the previously acquired knowledge. Such a diagnostic report represents a tool both to monitor the follow up of the disease for each patient and give robust advice about the severity of the disease to clinicians.

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