

# Data mining syndromes

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With every news story, the concepts of data mining healthcare information move higher still up the research and policy agenda in this area. Clinical information and genetic data contained within electronic health records (EHRs) represents a major source of useful information for biomedical research but accessing it in a useful way can be difficult.

Writing in the International Journal of Intelligent Engineering Informatics, Hassan Mahmoud and Enas Abbas of Benha University and Ibrahim Fathy Ain Shams University, in Egypt, discuss the need for innovative and effective methods for representing this huge amount of data. They point out that there are data mining techniques as well as ontology-based techniques that can play a major role in detecting syndromes in patients efficiently and accurately. A syndrome is defined as a set of concomitant medical symptoms and indicators associated with a given disease or disorder.

The team has reviewed the state of the art and also focused on reviewing the well-known [data mining techniques](#) such as decision trees (J48), Naïve Bayes, multi-layer perceptron (MLP), and random forest (RF) techniques and compared how well they each perform in the classification of a particular syndrome, heart disease.

The team concludes that in experiments with a public data set, the RF classifier provides the best performance in terms of accuracy. In the future, they suggest that data mining will benefit healthcare and medicine significant for building a system able to detect a specific syndrome.

**More information:** Hassan Mahmoud et al. Data mining and ontology-based techniques in healthcare management, *International Journal of Intelligent Engineering Informatics* (2018). [DOI: 10.1504/IJIEI.2018.096549](https://doi.org/10.1504/IJIEI.2018.096549)

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