**MPS-II-by-Naive-Bayes-Classifier**

**Mucopolysaccharidosis type II detection by Naïve Bayes Classifier**

The SAS and R codes available here were used to create a list of patients with the highest likelihood of having MPS II, a rare disease using the MPS II symptoms. The details of this research is available in a special issue of PLOS One journals, i.e. Machine Learning in Healthcare and Biomedicine collection: "Mucopolysaccharidosis type II detection by Naïve Bayes Classifier: an example of patient classification for a rare disease using electronic medical records from the Canadian Primary Care Sentinel Surveillance Network"

The coding starts by SAS programing with some basic works such as data mining and then it continues with R coding to predict the MPS II patients using the Naïve Bayes algorithm. Feature Selection using a backward selection (Recursive Feature Elimination), the model performance by the Validation Set Approach technique and bootstrap, and correlation analysis among features have been carried out by R coding as well.

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