Big Data: Modeling, Estimation and Selection



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Reuse of big data in healthcare: presentation, transformation and analyze of the data extracted from electronic health records

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Routine care of the hospitalized patients enables to generate and store huge amounts of data. Typical datasets are made of medico-administrative data including encoded diagnoses and procedures, laboratory results, drug administrations and free-text reports. The exploitation of those data rises issues of data quality, confidentiality, data aggregation, and expert interpretation. Due to the structure of those data (for instance, each inpatient stay may have 1 to n diagnostic codes, among about 35,000 possible codes), the data aggregation process has a critical impact on the analysis. This aggregation requires skills in programming and statistics, but also a deep knowledge of the data collection process and the medical analysis.

This presentation will also show 3 examples of successful data mining and data reuse: adverse drug events detection and prevention, scheduling of patients admission in elective surgery, and hospital billing improvement.

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