

Scalable Pattern Search in Multi-Structure Data

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201403307

Technology Summary

The invention relates to the medical industry and more specifically to methods of predicting risks. With the impetus towards personalized and evidence-based medicine, the need for a framework to analyze/interpret quantitative measurements (blood work, toxicology, etc.) with qualitative descriptions (specialist reports after reading images, bio-medical knowledgebase, etc.) to predict diagnostic risks is fast emerging. Addressing this need, we pose and answer the following questions: (i) How can we jointly analyze and explore measurement data in context with qualitative domain knowledge? (ii) How can we search and hypothesize patterns (not known apriori) from such multi-structure data? (iii) How can we build predictive models by integrating weakly-associated multi-relational multi-structure data? We propose a framework towards answering these questions. We describe a software solution that leverages hardware for scalable in-memory analytics and applies next-generation semantic query tools on medical data.

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