The 118th RCKC Colloquium

Search Result Diversification
via Filling up Multiple Knapsacks

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Date: December 19,2014 (Fri.) 11:00-12:00
Venue: Meeting Room for joint Research 1
on The 3rd Floor of ULIS BLDG. in Kasuga Area

Result diversification is a topic of great value for enhancing user experience in many fields, such as web search and recommender systems. Many existing methods generate a diversified result in a sequential manner, but they work well only if the preceding choices are optimal or close to the optimal solution. Moreover, a manually tuned parameter (say, λ) is often required to trade off relevance and diversity. This makes it difficult to know whether the failures are caused by the optimization criterion or the setting of λ. In context of web search, we formulate the result diversification task as a 0-1 multiple subtopic knapsack problem (MSKP), where a subset of documents are optimally chosen like filling up multiple subtopic knapsacks. This formulation yields no trade-off parameters to be specified beforehand. Solving the 0-1 MSKP is NP-hard, we treat the optimization of 0-1 MSKP using a graphical model over latent binary variables as a maximum posterior inference problem, and tackle it with the max-sum belief propagation algorithm.

The Seminar will be presented in English.

There is no charge to participate and

no reservation is needed .

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