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Group Recommendation: Exploring Users' Dual Representations

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Group Recommendation: Exploring Users' Dual Representations



Offers B2B BI services with predictive AI to facilitate the analysis and identification of call for tenders and new clients.

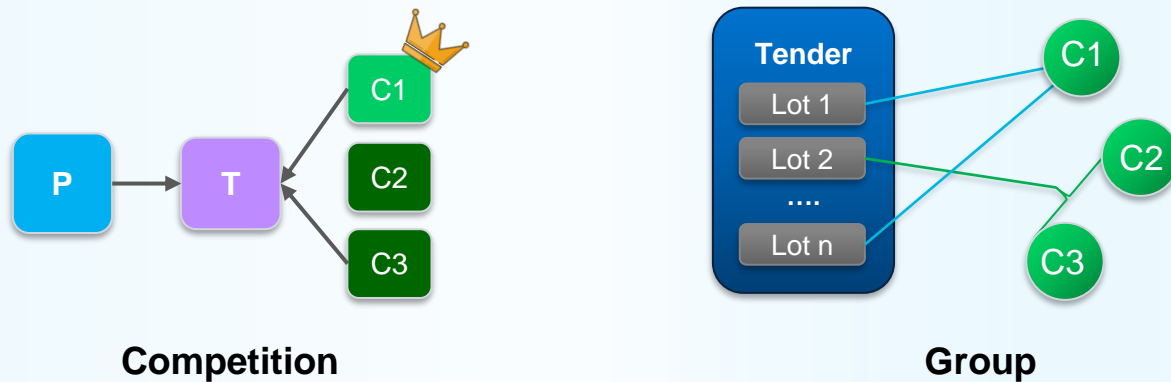


MOdels and **TO**ols for **E**nhanced **L**earning - Research on human-centered methods and models to facilitate human learning.

Task: Recommend tenders/lots to companies with a good chance of winning them.

Application context

A call for tenders (T) is a process whereby an ordering party (P) selects a beneficiary based on predefined objective criteria communicated to all participants in advance.



Focus of this work: Group recommendation.

Recommendation

Recommender systems provide users with personalized and ranked lists of items based on their preferences.

Group recommender systems aim to suggest relevant items to a group of users. Two main strategies have been envisaged:

- ▶ **Occasional Group Recommenders (OGR)** – Based on aggregation methods (e.g. least-misery, maximum satisfaction) of individual preferences or individual scores.
- ▶ **Empty list:** Aggregator may return an empty set. ▶ **Suboptimal:** Learn only from individual interactions.
- ▶ **Persistent Group Recommenders (PGR)** – Groups are considered virtual users with enough interactions. Mainly pre-established, new groups are unlikely to emerge.
- ▶ **Overfitting:** need a lot of group interactions. ▶ **Specialization:** Unable to recommend for unseen groups.

Idea: Dissociate user preferences when interacting alone or in groups.

Our Approach: DREK

Assumption:

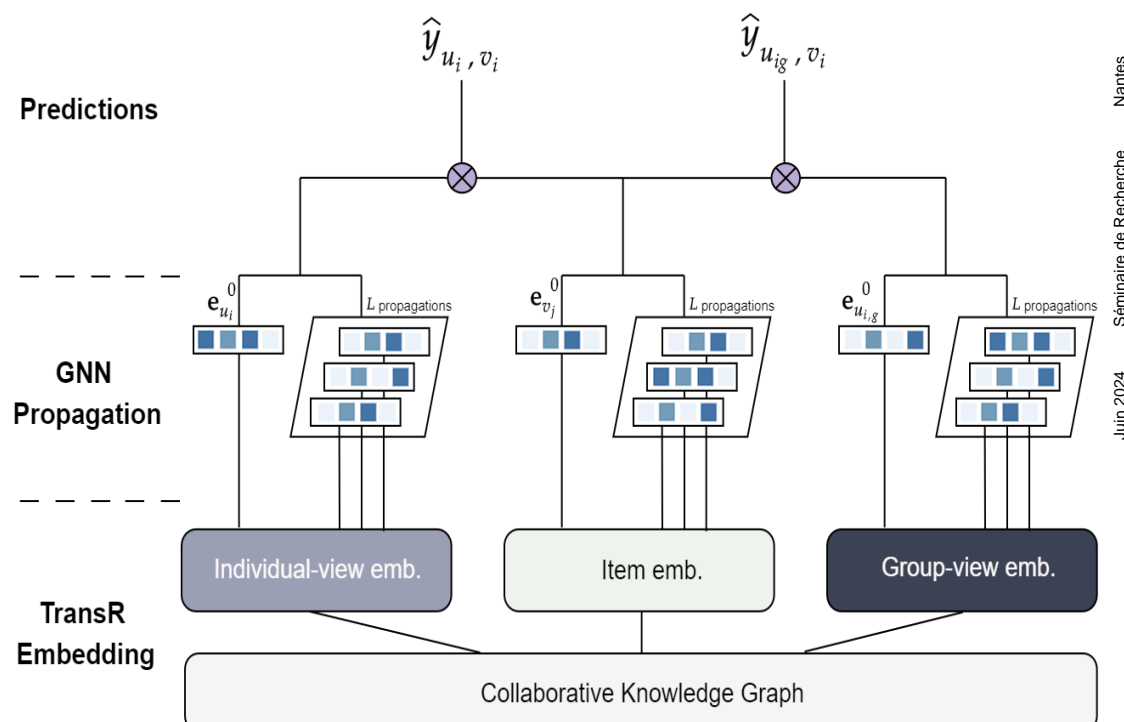
User preferences may vary whether they interact alone or as a group member.

Proposition:

Learn two different user preferences:
- **Individual-view:** using U-I interactions.
- **Group-view:** Using all interactions as a group member.

Recommendation:

Two lists of items are thus recommended: one relevant item list when engaging alone, another relevant item list when engaging in a group.



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References

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