RoundTripRank: Graph-based Proximity with Importance and Specificity

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Problem: Proximity Ranking on the Graph

Example Applications
- Find expert reviewers for a paper
- Find matching venues for some keywords
- Find relevant pages for a search phrase
- Find similar search phrases of a given phrase

Observations: Importance & Specificity and Their Flexible Trade-offs

Challenge 1: How to unify importance & specificity?

Finding 1: Both importance & specificity are needed.

Challenge 2: How to customize their trade-offs?

Finding 2: Customizable trade-offs are needed.

Challenge 3: How to compute the proximity efficiently?

Finding 3: Our computational model enables efficient ranking.