Sparse knowledge graph-based recommendations

Recommendation systems are key for providing personalized experiences, but sparse data presents a significant challenge.

The problem

How to enhance recommendation accuracy using knowledge graphs techniques in sparse data scenarios?

The method

Multi-channel Knowledge-aware Network and Broad Learning (MKNBL) – a two-stage method that integrates knowledge from multiple sources to improve recommendations.

The solution

1. Extract rich side information from the KG using a multi-channel network.
2. Combine enriched user and item representations using Broad Learning (BLS) to enhance feature learning.

Framework overview

Why MKNBL provides better results?

1. Rich semantic integration.
2. Multi-channel processing.
3. Efficient learning with BLS.
4. Improved generalization.