

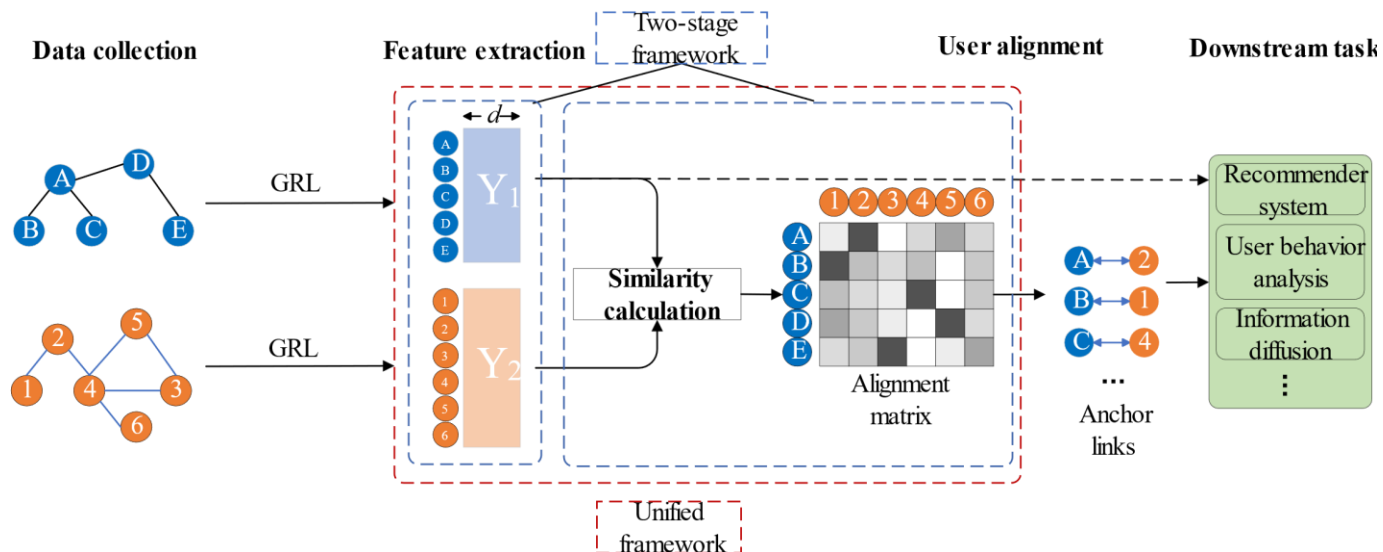
A survey of social network alignment methods based on graph representation learning

**Yutong WU, Feiyang LI, Zhan SHI, Zhipeng TIAN, Wang ZHANG,
Peng FANG, Renzhi XIAO, Fang WANG, Dan FENG**

Frontiers of Computer Science, DOI: [10.1007/s11704-025-40985-2](https://doi.org/10.1007/s11704-025-40985-2)

Problems & Ideas

- Problems of conventional SNA methods:
 - Traditional SNA methods struggle with data sparsity, heterogeneous structures, and network dynamics.
 - These lead to poor alignment accuracy and low adaptability to real-world scenarios.
- Ideas: Systematically review state-of-the-art advancements in both static and dynamic networks, considering homogeneous and heterogeneous settings, including emerging approaches integrating LLMs.



Main Contributions

- Contributions:
 - GRL and LLM integration establishes a new research paradigm for SNA, enabling more accurate, adaptive, and semantically rich user matching;
 - It offers a unified benchmarking framework that supports fair comparisons and reproducible evaluations across diverse datasets and scenarios;
 - The work also outlines promising future directions, such as interpretable modeling, multimodal fusion, and scalable LLM-enhanced alignment.

