Computational Social Indicators: A Case Study in Chinese University Ranking

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Background

❖ *Social indicators* are numerical measures that describe the well-being of individuals or communities. Hundreds of social indicators were released by mass media, organizations, and government ministries in recent years.

❖ Most of the released social indicators are computed in two steps: calculate *scores of several factors* related to the social indicators and *fuse these scores* with heuristic weights.

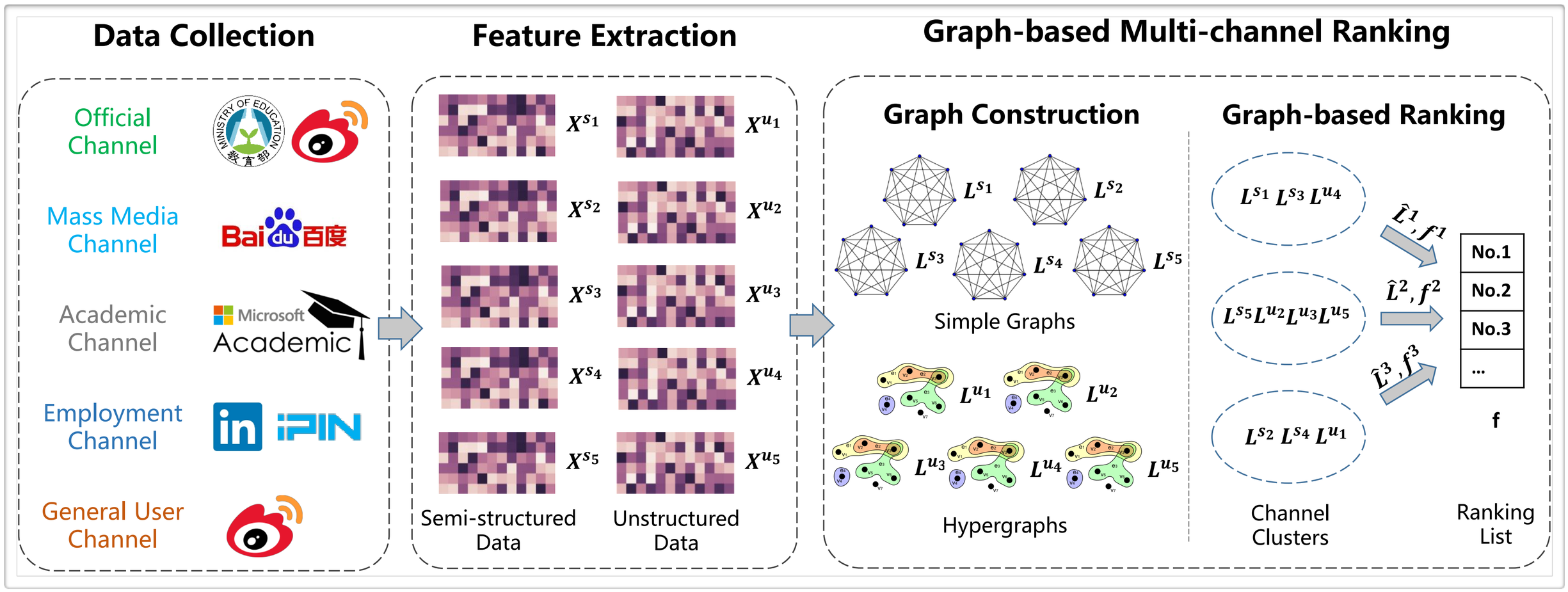
❖ Current social indicator computation systems have limitations of *data insufficiency*, *labor-intensive data collection*, and *expert-relied data fusion*.

Objectives

❖ We aim to construct a novel social indicator computational framework that automatically collects multi-channel online data and ranks the given entities by appropriately fusing the collected data.

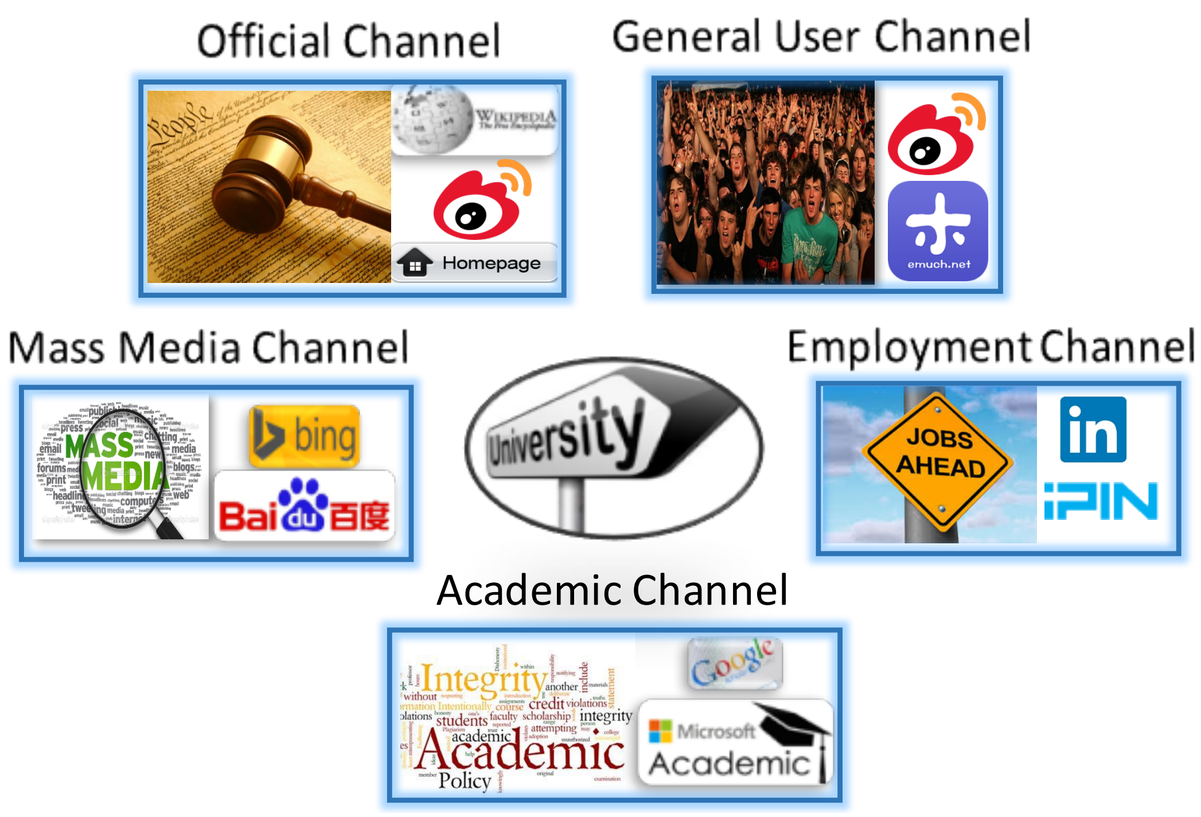
- The scheme uses large scale online data from multiple channels to describe the given entities → *data insufficiency*.
- No user study or survey → *labor-intensive data collection*.
- Graph-based ranking → *expert-relied data fusion*.

Framework



Chinese University Ranking

❖ Multi-channel Online Data



❖ Qualitative Evaluation

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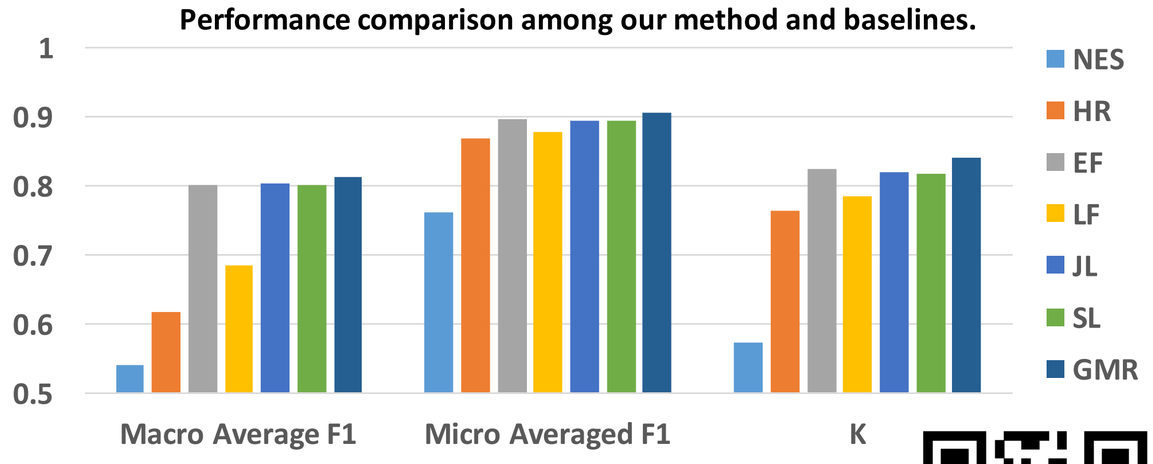
Table 1: Comparison to traditional Chinese university rankings.

Ranking Results	Ours	RCCE	CAMS	CUAA
Average Scores	8.12±0.99	7.59±1.51	7.71±1.35	8.06±0.81
Highest Score Percentage	53%	18%	35%	59%

Performance comparison among our method and baselines.



❖ Latest Ranking

- http://unirank.nextcenter.org

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