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Cognitively-inspired multi-view feature fusion for modeling human decision processes in person-job fit

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Abstract

Person-Job Fit is a key AI application in recruitment, yet often suffers from incomplete information. Recent Graph Neural Network approaches improve PJF through professional network modeling but face two challenges: dependence on high-quality structured data and underutilization of multi-view information. Inspired by human cognitive decision-making, we propose a cognitively-inspired PJF framework that simulates how recruiters synthesize textual and relational cues: (1) leveraging Large Language Models to construct heterogeneous professional networks from unstructured data, reducing reliance on manual annotation; (2) introducing a multi-view feature fusion strategy with cascaded cross-attention to integrate text and graph representations, reflecting selective attention mechanisms; and (3) matching candidates to jobs via a multi-layer perceptron over fused node features, analogous to holistic human judgment. Experiments on a Wikipedia-based PJF dataset demonstrate that our method significantly outperforms baselines.