

Auto-Encoding User Ratings via Knowledge Graphs in Recommendation Scenarios

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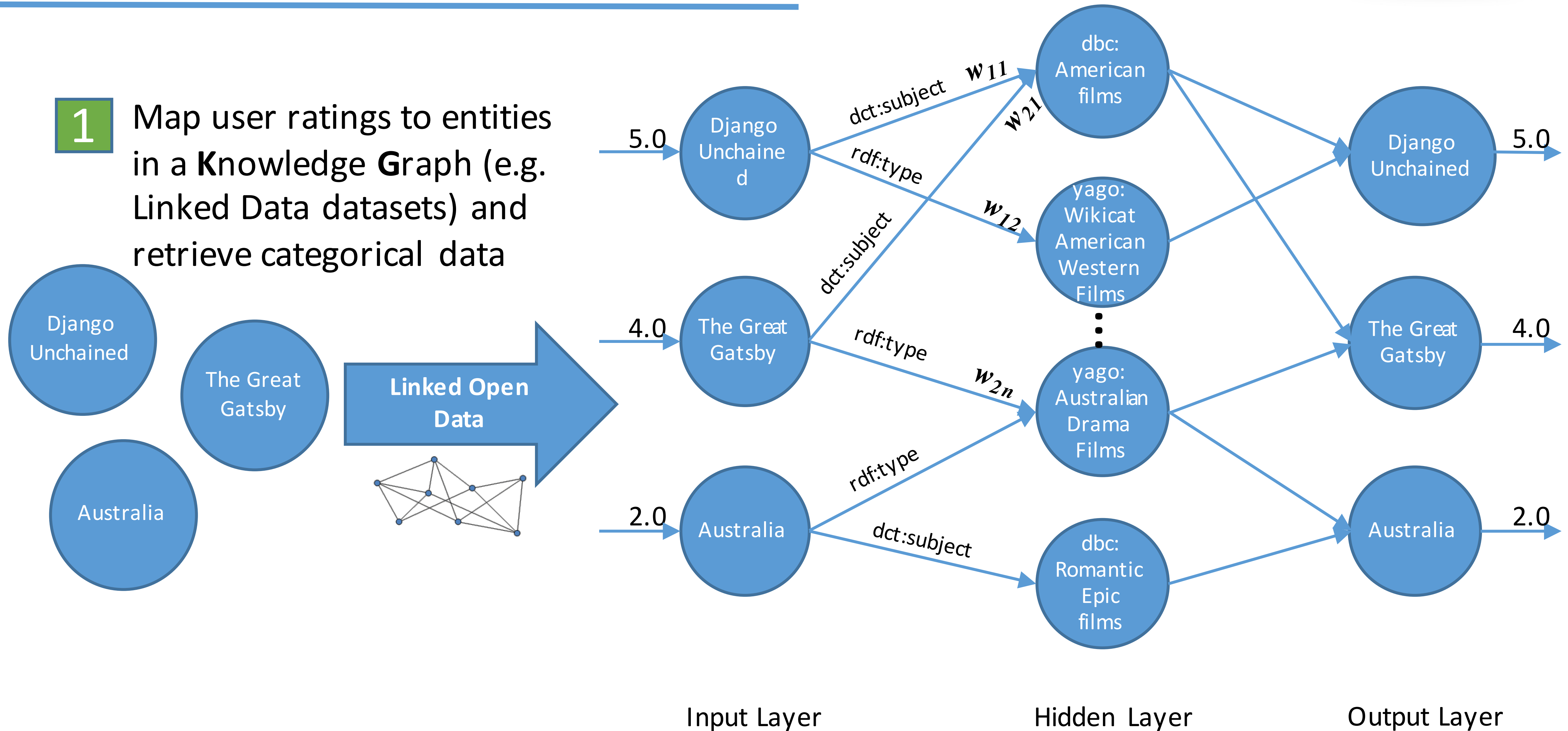
IDEA



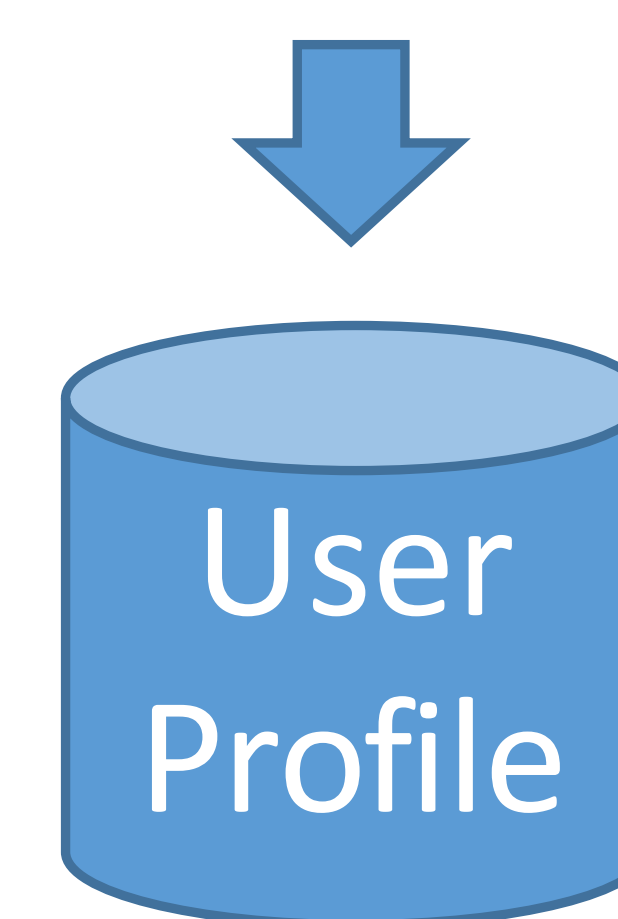
Can neural networks be self-explainable?



APPROACH



2 Build an Autoencoder (not fully connected) reflecting the topology of the Knowledge Graph. A node in the hidden layer is a categorical resource in the Knowledge Graph which results connected to a rated item.



3 Weighted features extracted from the hidden layer represent the user's profile. Features are used to compute recommendations.

$$r(\tilde{i}, u) = \sum_{f_n \in F(\tilde{i})} w(f_n, u)$$

RESULTS

- Outperform state-of-the-art CF in cold-start scenario
- Categorical explanations
- Scalable approach

