Large and complex graphs capturing millions of entities and billions of relationships between entities.

- Freebase: 1.9 billion triples
- DBpedia: 3 billion triples
- YAGO: 120 million triples
- Linked Open Data: 52 billion triples

Applications: search, recommendation systems, business intelligence, health informatics, fact checking.

**Too Many Previews. Which One to Choose?**

<table>
<thead>
<tr>
<th>Entity Graphs</th>
<th>Preview Tables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aggregate Scoring</strong></td>
<td><strong>Attribute Scoring</strong></td>
</tr>
<tr>
<td><strong>Score of the Preview</strong></td>
<td><strong>Key attribute scoring</strong></td>
</tr>
<tr>
<td>FILM</td>
<td>Act</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>FILM ACTOR</td>
<td>Act</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>4 x (6+5) = 44</td>
<td>Coverage method: Coverage(Genres) = 5</td>
</tr>
<tr>
<td>2 x (6+2) = 16</td>
<td>Coverage method: Coverage(Genres) = 5</td>
</tr>
<tr>
<td>60</td>
<td>Coverage(Genres) = 5</td>
</tr>
</tbody>
</table>

**Key attribute scoring**

- Coverage-based method: Coverage(Genres) = 5
- Random walk-based method: Stationary distribution of a random walk process defined over the schema graph

**Non-key attribute scoring**

- Entropy-based method: Entropy(Genres) = (2+0)/2 = 1
- Coverage(Genres) = 5

**Optimal Preview Discovery**

- Concise preview: dynamic programming algorithm
- Tight/Diverse preview: Apriori property algorithm

**Need for a Quick Overview**

- Schema summarization in relational database [Yang PVLDB09, Yang PVLDB11]
- XML summarization [Yu VLDB06]
- Graph summarization [Tian SIGMOD08, Zhang ICDE10]

**TableView Overview [Yan SIGMOD16, Hasani ICDE18demo]**

- **Domains**: film, book, music, TV, people
- **Key attribute scoring**: Coverage-base, Random Walk-based
- **Non-key attribute scoring**: Coverage-based, Entropy-based
- **Preview type**: Concise, Diverse, Tight

**References**


**Interacting with the Preview Tables**

- Drop any column from the preview tables and refresh the preview.
- Additional information for each column of the preview tables.
- Expand and collapse the sample data section of the preview tables.
- Export the preview into PDF.
- Find the entity type in the schema graph that corresponds to the key attribute of a preview table.

**Manual Preview Tables**

- **Domain**: Film

**References**

- [https://idir.uta.edu/tableview]