

Logos : A Graph-based Model for SQL-to-NL

Logos in a nutshell:

1. The SQL query is modeled as a graph.
2. For all node- and edge- types:
 - ❖ Default labels.
 - ❖ **Custom labels.**
3. Templates are used to synthesize explanations over parts of the query graph.
4. Synthesis as a graph traversal.

Pros:

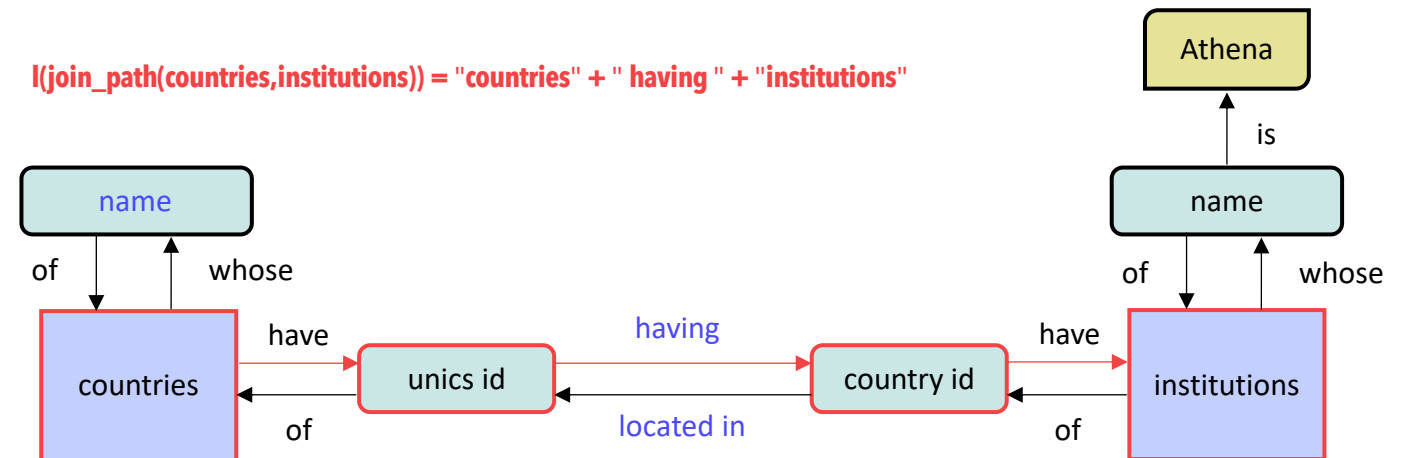
- ❖ Highly **precise explanations.**
- ❖ A **white-box translation model** for SQL queries.

Cons:

- ❖ Explanations **depended on query's syntax.**
- ❖ Complex queries (e.g., with many attributes) lead to **unnatural explanations.**

```
SELECT t1.country_name
FROM countries t1, institutions t2
WHERE t1.unics_id = t2.country_id AND t2.name = "Athena";
```

$l(\text{join_path}(\text{countries}, \text{institutions})) = \text{"countries"} + \text{" having "} + \text{"institutions"}$



Find countries having institutions whose name is Athena.

