

# TriviaNLQ: Natural Language Query for trivial questions

M2 TAL Software Project

Karolin Boczoń  
Roham ROSHANFEKR

by

Dimitra NIAOURI  
Muhammad SHAHZAIB

## Dataset

- ▶ We changed the dataset from Monument to LC-QuAD
- ▶ Question Answering dataset with 5000 pairs of questions and their corresponding SPARQL queries
- ▶ More suitable for our task
- ▶ The target knowledge base: DBpedia

## Progress

- ▶ Script for making a question in NL and turning it to SPARQL
- ▶ Script for turning the encoded output into SPARQL (e.g. restoring brackets, fixing the SPARQL syntax)
- ▶ Script for querying DBpedia and getting results
- ▶ Report

## Towards the final product

- ▶ First the user asks a question in NL
- ▶ Interpretation of question
- ▶ Query in SPARQL
- ▶ Results from DBpedia

Which *nasa astronaut* was on mission **gemini 8** ?

```
which nasa astronaut was on mission gemini 8 ?  
S-0      which nasa astronaut was on mission gemini 8 ?  
SELECT DISTINCT ?uri WHERE{?uri dbp:mission dbr:Gemini_8 . ?uri rdf:type dbo:Astronaut }  
{'distinct': False, 'ordered': True, 'bindings': [{'uri': {'type': 'uri', 'value': 'http://dbpedia.org/resource/David_Scott'}}]}
```

Figure: Result of our script

Which *nasa astronaut* was on mission **gemini 8** ?

Query Text

```
SELECT DISTINCT ?uri WHERE{?uri dbp:mision dbr:Gemini_8 . ?uri rdf:type dbo:Astronaut }
```

**Figure:** Example of a SPARQL Query on the DBPedia endpoint

Which *nasa astronaut* was on mission **gemini 8** ?

SPARQL | HTML5 table

uri

[http://dbpedia.org/resource/David\\_Scott](http://dbpedia.org/resource/David_Scott)

Figure: Result of the Query on the DBPedia endpoint

Where did *Anton Ausserer* **die**?

```
where did anton ausserer die ?  
S-0      where did anton ausserer die ?  
SELECT DISTINCT ?uri WHERE{dbr:Anton_Ausserer dbo:deathPlace ?uri }  
{'distinct': False, 'ordered': True, 'bindings': [{'uri': {'type': 'uri', 'value': 'http://dbpedia.org/resource/Austria'}}, {'uri': {'type': 'uri', 'value': 'http://dbpedia.org/resource/Graz'}}]}
```

Figure: Result of our script



Where did *Anton Ausserer* **die**?

Query Text

```
SELECT DISTINCT ?uri WHERE{dbr:Anton_Ausserer dbo:deathPlace ?uri }
```

**Figure:** Example of a SPARQL Query on the DBPedia endpoint

Where did *Anton Ausserer* **die**?

uri

<http://dbpedia.org/resource/Austria>

<http://dbpedia.org/resource/Graz>

Figure: Result of the Query on the DBPedia endpoint

# Thank you!

# Yet another approach

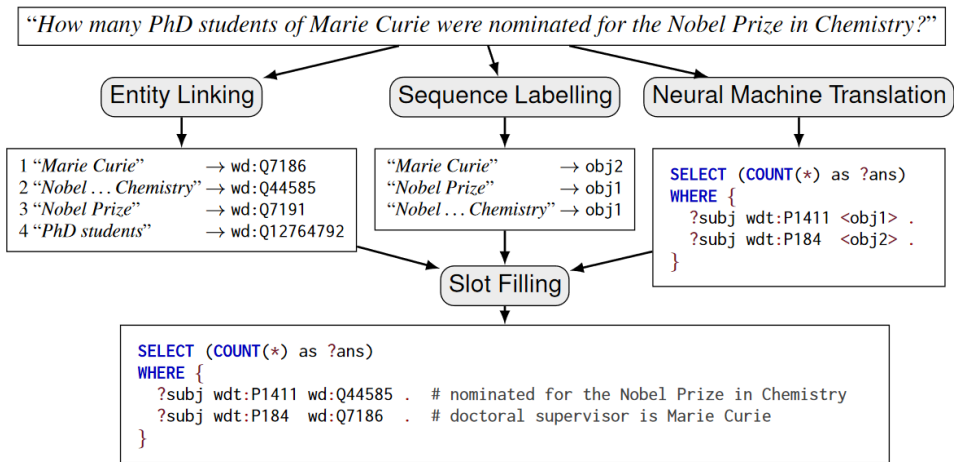


Figure: Overview of ElNeuQA approach, adapted from Diomedi and Hogan (2021)