

Elas4RDF: Multi-perspective Triple-centered Keyword Search over RDF using Elasticsearch

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1. Motivation

Keyword search: Familiar to plain users (web search engines) and entry point to the information space for faceted search

Elasticsearch: A document-centric Information Retrieval System with widespread use in different contexts

The evaluation over DBpedia-Entity v2 test collection has shown that the approach presented in [1] performs similarly to systems built from scratch and use entity-oriented and dataset-specific index structures.

2. Elas4RDF



A **triple-centered keyword search engine over RDF** that offers **Multiple Perspectives (tabs)** for the search results: the user can easily inspect all tabs and get a **better overview and understanding of the search results**.

3. Perspectives

a) Triples tab

Shows the **top-ranked triples** (precise, explainable)
Extended information from rdfs_comment
Triples can be downloaded

b) Entities tab

Shows the **top-ranked entities** (from the ranking of triples we produce the ranking of entities). For each entity, the corresponding image from Wikipedia/DBpedia page is shown

c) Graph tab

Visualizes the top-ranked triples as a graph to show **how they are connected**. The number of retrieved triples can be adjusted (implementation using the [JavaScript InfoVis Toolkit](#))

d) QA tab

Interprets the query as a question and attempts to find the triples that contain a **natural language answer**. The triple containing the answer, and relevant keywords are shown

4. Conclusions

Elas4RDF is a scalable, efficient and effective method for keyword search over RDF datasets. It follows a **triple-centered** approach (in contrast to the entity-based approach) for providing more **precise** and **explainable** results. It relies on a special configuration of ElasticSearch for the needs of RDF. The approach is totally **schema agnostic**, and thus widely applicable. For capturing a wide range of information needs, Elas4RDF offers **various perspectives** for the search results. The current deployment is over DBpedia version 2015-10. In future we plan to add more perspectives, to work on the automatic recognition of the query type and prioritization of the perspectives, and to test the approach over various domain-specific datasets

6. TRY Elas4RDF

<https://demos.isl.ics.forth.gr/elas4rdf>



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