

Search across knowledge sources: Components of building semantic search systems

Semantic search can be described as the effort to improve the accuracy of the search process by understanding the context and limiting the ambiguity. Semantic search engines are more likely to try to understand the meanings that are hidden in retrieved documents and users' queries, by means of adding semantic tags into texts, in order to bring structure into and conceptualise the objects within documents. The primary components of the semantic web, *ontologies* and *knowledge graphs* (populated ontologies), are rich sources of domain knowledge. Semantic search systems leverage this domain knowledge to capture query intent and improve the accuracy of the search. For example, for a query such as *Rosalind Franklin*, Google* returns specific details such as her date of birth, education, and scientific discoveries, (refer image). In addition, the query also yields details about entities that are related to the search request, such as other scientist in the area of biology and chemistry of the same era.

Our research addresses the key aspects of semantic search: (1) creation of the knowledge graphs and (2) efficient retrieval of concepts across

distributed and interlinked knowledge graphs. We propose efficient reuse of structured and unstructured resources to build knowledge graphs. The manual method of populating ontologies with instances to build knowledge graphs is laborious. We leverage bootstrapping techniques to reuse unstructured resources for semiautomatic ontology population. In addition, instances were extracted from the structured resources on the linked open data. Our semi-automatic ontology population methodologies have the potential to reduce the time and effort required to build the knowledge graph.

The second key aspect of semantic search is retrieving concepts from a corpus of ontologies. Identifying the right concepts is a critical part of search-improvement techniques such as web page annotation, query intent capture, and web page classification. The scale, duplication and ambiguity makes concept search across ontologies a challenging problem. We propose keyword-based *concept search frameworks* that balances the relevance and diversity of concept search results.

About 4,72,000 results (0.50 seconds)

Rosalind Franklin - Wikipedia

https://en.wikipedia.org/wiki/Rosalind_Franklin
Rosalind Elsie Franklin (25 July 1920 – 16 April 1958) was an English chemist and X-ray crystallographer who made contributions to the understanding of the ...
Photo 51 · Maurice Wilkins · Aaron Klug

Rosalind Franklin - Chemist - Biography.com

www.biography.com/people/rosalind-franklin-9301344
Jul 7, 2016 - British chemist Rosalind Franklin is best known for her role in the discovery of the structure of DNA, and for her pioneering use of X-ray diffraction. ... Born in 1920 in London, England, Rosalind Franklin earned a Ph.D. in physical chemistry from Cambridge University. ... British chemist ...

Rosalind Elsie Franklin: Pioneer Molecular Biologist

<https://www.sdsc.edu/ScienceWomen/franklin.html>
There is probably no other woman scientist with as much controversy surrounding her life and work as Rosalind Franklin. Franklin was responsible for much of ...

Rosalind Franklin :: DNA from the Beginning

www.dnafb.org/19/bio-3.html
Biography of Rosalind Franklin from Concept 19: The DNA molecule is shaped like a twisted ladder, DNA from the Beginning.

Sexism in science: did Watson and Crick really steal Rosalind ...

<https://www.theguardian.com/science/genetics>
Jun 23, 2015 - One claim was that during the race to uncover the structure of DNA, Jim Watson and Francis Crick either stole Rosalind Franklin's data, ...

Rosalind Franklin: Biography & Discovery of DNA Structure

www.livescience.com/health
Sep 19, 2013 - Rosalind Franklin was a scientist whose contributions to the discovery of the shape of the DNA molecule went uncredited for many years.

The Rosalind Franklin Papers: Biographical Information

<https://profiles.nlm.nih.gov/ps/retrieve/Narrative/KRp-nid/183>
Rosalind Elsie Franklin, the brilliant chemist whose x-ray diffraction studies ... Her father Ellis Franklin was a partner at Keyser's Bank, one of the family's major ...



Semantic search results

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