Searching Outside the Box

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OlaSearch
the box is your *internal content*

*external knowledge* can help you find what’s inside the box
search should return answers not just content

to return answers search must first understand your question
Semantic Annotation
Semantic annotation is the process of indexing and classifying content by using authoritative concepts and names managed in taxonomies and ontologies.

Semantic Enrichment
Semantic enrichment is the process of augmenting internal content with additional information extracted from external content via conceptual mappings.
Mapping to External Knowledge - Example

**SIGNAL**

**Signal Media Dataset**
1M news articles (information retrieval ‘IR’ research dataset)

**Associated Press Taxonomies**
173,000+ names and concepts (licensable dataset)

**External Linked Data**
1.3M DBpedia person and place entities (open dataset)

http://research.signalmedia.co/newsir16/signal-dataset.html
http://www.ap.org/products-services/metadata/taxonomy
http://wiki.dbpedia.org
### Item Summary

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<th>Description</th>
<th>Economy</th>
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<td>AP Subjects</td>
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### Relationships

- **DT Business (AP Subjects)**
- **NT Agricultural sector performance (AP Subjects)**
- **NT Bankruptcy figures (AP Subjects)**
- **NT Business confidence (AP Subjects)**
- **NT Construction sector performance (AP Subjects)**
- **NT Construction and in place (AP Subjects)**
- **NT New residential construction (AP Subjects)**
- **NT New residential series (AP Subjects)**
- **NT Housing vacancies and homeownership (AP Subjects)**
- **NT Consumer credit (AP Subjects)**
- **NT Consumer spending (AP Subjects)**
- **NT Corporate profiles (AP Subjects)**
- **NT Economic growth (AP Subjects)**
- **NT Gross domestic product (AP Subjects)**
- **NT Economic outlook (AP Subjects)**
- **NT Economic policy (AP Subjects)**
- **NT Economic stimulus (AP Subjects)**
- **NT Government spending (AP Subjects)**
- **NT Government aid for industry (AP Subjects)**
- **NT Government authorities (AP Subjects)**
- **NT Agricultural subsidies (AP Subjects)**
- **NT Energy subsidies (AP Subjects)**
- **NT Transportation subsidies (AP Subjects)**
- **NT Term Asset-Backed Securities Loan Facility (AP Subjects)**
- **NT Troubled Assets Relief Program (AP Subjects)**
- **NT Monetary policy (AP Subjects)**
- **NT Central bank interest rates (AP Subjects)**
- **NT Currency pegging (AP Subjects)**
- **NT Trade policy (AP Subjects)**
- **NT Trade agreements (AP Subjects)**
- **NT Trade barriers (AP Subjects)**
- **NT Financial crisis (AP Subjects)**
- **NT Foreclosures rates (AP Subjects)**
- **NT Foreign debt (AP Subjects)**
- **NT Government borrowing requirement (AP Subjects)**
- **NT Home sales (AP Subjects)**
- **NT New residential sales (AP Subjects)**
- **NT International trade (AP Subjects)**
- **NT Balance of payments (Economy)**
- **NT Bilateral (trade)**
- **NT Capital flows (Economy)**
- **NT Ex-import (AP Subjects)**
- **NT Free trade (AP Subjects)**
- **NT Global trade (AP Subject)**

### Definition

All production, consumption, commercial, industrial and financial activities affecting regions and countries as a whole.
Understanding the Question – Live Demos
Showing results for Barack Obama meets Indian pm

Search for obama meets indian pm instead

Barack Obama
American politician who is the 44th and current President of the United States.

Narendra Modi
14th and current Prime Minister of India, in office since 26 May 2014.

Source: Digipedia

Narendra Modi Outshines Michelle Obama With Airport Outfit
28 September 2015
U.S. President Barack Obama's visit to India began with a pair of style statements. It was not Mr. Obama who sent a sartorial message, but his wife First Lady Michelle Obama and her host, Indian...

Modi-Obama meeting on Monday to build on January discussions
Showing results for **Michelle Obama** meets Indian PM

Search for **obama meets indian pm** instead

**Michelle Obama**
American lawyer, writer, and First Lady of the United States.

**Narendra Modi**
14th and current Prime Minister of India, in office since 26 May 2014.


**Narendra Modi Outshines Michelle Obama With Airport Outfit**
28 September 2015

U.S. President Barack Obama's visit to India began with a pair of style statements. It was not Mr. Obama who sent a sartorial message, but his wife First Lady Michelle Obama and his host, Indian...
Serena Williams (born September 26, 1981) is an American professional tennis player who is ranked No. 1 in women's singles tennis. The Women's Tennis Association (WTA) has ranked her world No. 1 in singles on six separate occasions. She became the world No. 1 for the first time on July 6, 2002, and achieved this ranking for the sixth time on February 18, 2013. She is the reigning champion of the French Open, Wimbledon and Olympic women's singles and doubles.

**dbp:birthDate** 1981-09-26 (xsd:date)

**dbp:birthPlace** Saginaw, Michigan, U.S. (en)

**dbp:plays** Right-handed (en)

**dbp:residence** Palm Beach Gardens, Florida, U.S. (en)

**dbp:turnedpro** 1995-09-24 (xsd:date)
Recognizing common query patterns
Parsing queries for nouns, verbs and adjectives
Mapping query patterns to taxonomy and ontology structures
Bringing it all together in an intuitive interface and user experience

“US tennis players born in Michigan after 1980”

Inferred Birth Place = Occupation / known for Query Indicator = Birth Place >= Birth Year

Query pattern indicates user intention

Variables parsed for targeted query against external classes & properties in the Dbpedia ontology

Set of matching named entities in external knowledge graph

owl:sameAs mapped equivalents in the AP indexing taxonomies

Matching document articles indexed to taxonomy
“All too often people put effort into building taxonomies only to find that search ignores them.”

Taxonomy and search belong together.

Love your taxonomies... Love your search.
Searching Outside the Box

Thank you!

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Knowledge Organization & Discovery

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Love your search

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