

Searching Outside the Box



Dave Clarke
Synaptica



Maish Nichani
OlaSearch

the box is your *internal content*

1



external knowledge can help you find
what's inside the box

search should return *answers* not just content

2



to return answers search must first
understand your question

Enterprise Content

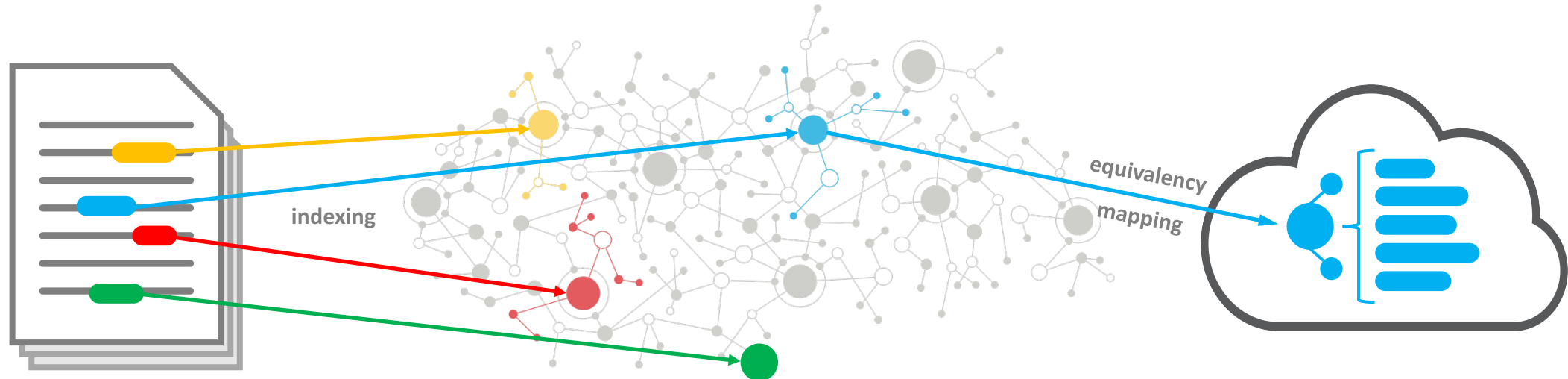
Documents, Databases,
Web Pages...

Enterprise Taxonomy

Subjects, People, Places,
Organizations...

External Linked Data

DBpedia, GeoNames, Wikidata,
Library of Congress...



Semantic Annotation

Semantic annotation is the process of **indexing and classifying** content by **using authoritative concepts** and names managed in taxonomies and ontologies.

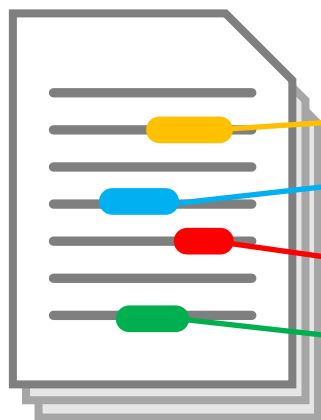
Semantic Enrichment

Semantic enrichment is the process of **augmenting internal content with** additional information extracted from **external content via conceptual mappings**.

SIGNAL

Signal Media Dataset

1M news articles (information retrieval 'IR' research dataset)

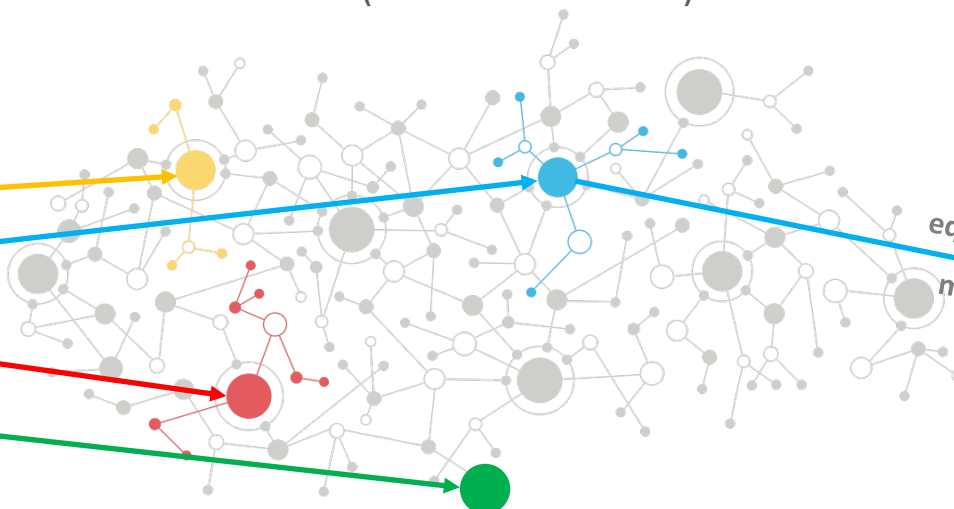


indexing

AP

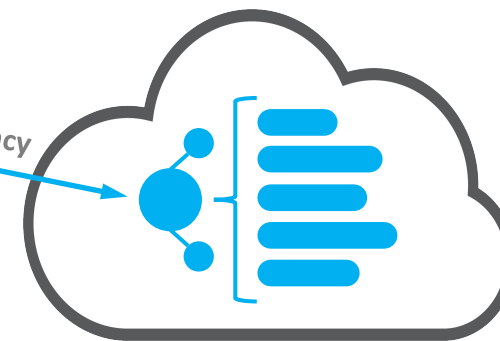
Associated Press Taxonomies

173,000+ names and concepts (licensable dataset)



External Linked Data

1.3M DBpedia person and place entities (open dataset)



equivalency
mapping

<http://research.signalmedia.co/newsir16/signal-dataset.html>

<http://www.ap.org/products-services/metadata/taxonomy>

<http://wiki.dbpedia.org>

Synaptica®

Taskview: AP News Taxonomies User: Dave Clarke ; Permission: SA Version 7.6.1 Log Out Help

Taskviews Search Tree Browse A-Z Browse Add Reports Tools Admin

☒ Limit to Taskview ☐ Show All
☐ Display Relationship Abbreviations

[Highlight by Category](#)
[Filter by Relationship Type](#)

AP Geography
AP Organizations
AP Persons
AP Subjects

Arts and entertainment
Business
Business travel
Careers
Consumer affairs
Corporate news
Economy
Agricultural sector performance
Bankruptcy figures
Business confidence
Construction sector performance
Consumer credit
Consumer spending
Corporate profits
Economic growth
Economic outlook
Economic policy
Financial crisis
Foreclosure rates

Item Summary

Descriptor Economy
Object AP Subjects
Categories DemoSubj
Status Active; Candidate; Preferred; Unlocked
UID 1043017
Created pmroget 2/20/2007 5:47:11 PM
Modified pmroget 11/9/2016 5:02:14 PM

Save Add New Subsume
Refresh Categories History
Deactivate Delete Restore
Copy

Sub-Elements

Descriptor: Economy
DBpediaURI: http://dbpedia.org/page/Economy
Is Placeholder: false
Is Reference:
Change Note:
Date Modified: 2015-08-05 11:38:28
Home Page:
Definition: All production, consumption, commercial, industrial and financial activities affecting regions and countries as a whole.

Relationships

Add/Edit Relationships Flat View Visualize
Tree Expansion Limit to Taskview Show All

Economy
BT Business (AP Subjects)
NT Agricultural sector performance (AP Subjects)
NT Bankruptcy figures (AP Subjects)
NT Business confidence (AP Subjects)
NT Chief executives' confidence (AP Subjects)
NT Construction sector performance (AP Subjects)
NT Construction put in place (AP Subjects)
NT New residential construction (AP Subjects)
NT New residential sales (AP Subjects)
NT Housing vacancies and homeownership (AP Subjects)
NT Consumer credit (AP Subjects)
NT Consumer spending (AP Subjects)
NT Corporate profits (AP Subjects)
NT Economic growth (AP Subjects)
NT Gross domestic product (AP Subjects)
NT Economic outlook (AP Subjects)
NT Economic policy (AP Subjects)
NT Fiscal policy (AP Subjects)
NT Economic stimulus (AP Subjects)
NT Government spending (AP Subjects)
NT Government aid for industry (AP Subjects)
NT Government subsidies (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 Foreclosure 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) (AP Subjects)
NT Bilateral trade (AP Subjects)
NT Capital flows (Economy) (AP Subjects)
NT Fair trade (AP Subjects)
NT Free trade (AP Subjects)
NT Global trade (AP Subjects)

AP

Rich source
of indexing
vocabulary
for news
data



AP Subjects



Business

3

Environment and nature

3

Government and politics

2

General news

1

Industries

1

Science

1

Social affairs

1

Sports

1

AP People



Look up...

Narendra Modi

7

Barack Obama

6

John Kerry

2

Enda Kenny

1

Fumio Kishida

1

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: [DBpedia](#)



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...



Modi-Obama meeting on Monday to build on January discussions

AP People



Barack Obama

1

Michelle Obama

1

Narendra Modi

1

Source



☐ USA Today

1

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.

Source: [DBpedia](#)



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...

AP People



Serena Williams

2

Source



☐ Canadian News

1

☐ NewsR.in

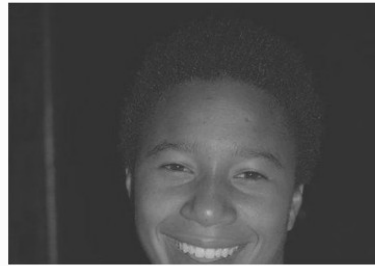
1

Showing results for us tennis players born in michigan after 1980



Serena Williams

American professional tennis player.



Megan Moulton-Levy

Jamaican-American professional tennis player.

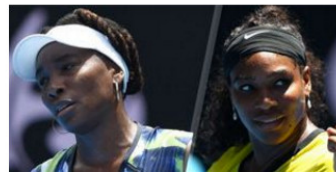
Source: [DBpedia](#)



US Open Lookahead: Venus Williams could use tips from Serena Williams

4 September 2015

Source: Wochit Entertainment - 2 days ago Venus Williams Graduates From College! 00:48 Venus Williams is more than just a star tennis player. She's a college graduate! And unlike those honorary...



→ Venus Williams Serena vs Venus: Williams sisters' US Open showdown by the numbers... <http://t.co/D4dFhYxo5V>

10 September 2015

Synaptica®

Taskview: AP News Taxonomies User: Dave Clarke ; Permission: SA Version 7.6.1 Log Out Help

Taskviews Search Tree Browse A-Z Browse Add Reports Tools Admin

Search

Search Type

Search Phrase: serena williams

☒ Smart
 ☐ Begins
 ☐ Contains
 ☐ Exact

☐ use wildcards

☐ Range - Begin: a End: z

☐ Specific UID:

☐ Use advance

Object Class:

AP Geography

AP Organization

AP Persons

Category:

DemoGeo

DemoNews

DemoOrg

Language: All

☐ Display Lang

Sub-Element

Date Filters

Status Filters

Formatting Op

Search Results

Serena Williams (Tennis) (AP Persons)

1 Items Found

Item Summary

Descriptor: Serena Williams (Tennis)

Object: AP Persons

Categories: DemoPeople

Status: Active; Candidate; Preferred; Unlocked

UID: 1106564

Created: pmroget 5/1/2008 5:23:48 PM

Modified: pmroget 11/9/2016 5:01:54 PM

Save

Add New

Subsume

Refresh

Categories

History

Deactivate

Delete

Restore

Copy

Sub-Elements

Descriptor: Serena Williams (Tennis)

DBpediaURI: http://dbpedia.org/page/Serena_Williams

Is Placeholder: false

Is Reference:

Change Note:

Date Modified: 2016-09-16 05:32:59

Home Page:

Relationships

Add/Edit Relationships

Limit to Taskview

Serena Williams (Tennis)

Top Level Parents

TT SPORTS FIGURE (AP Persons) (BLAT)

BT PROFESSIONAL ATHLETE (AP Persons) (BLAT)

Parents

Children

Associations

significantOther Common (Musician) (AP Persons)

Variants

DBpedia

Browse using Formats

Faceted Browser Sparql Endpoint

About: Serena Williams

An Entity of Type : person, from Named Graph : <http://dbpedia.org>, within Data Space : dbpedia.org

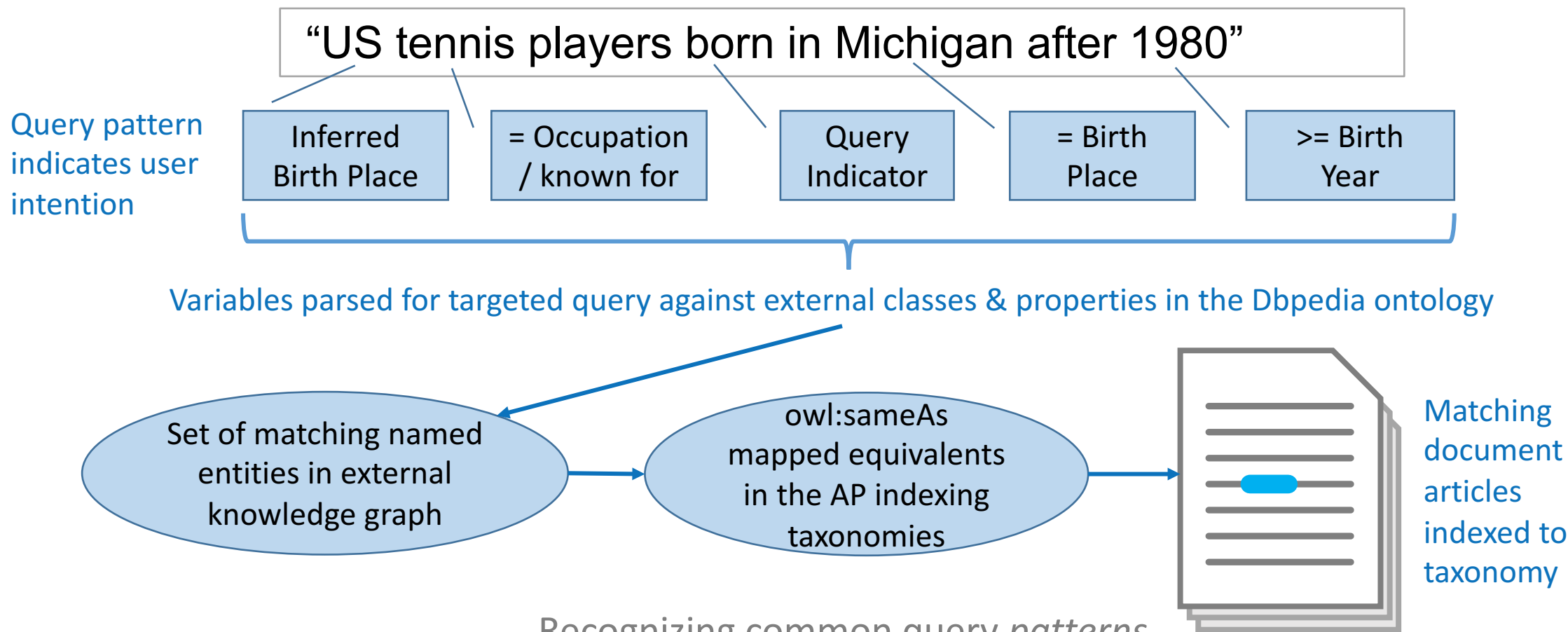
Serena Jameka Williams (born September 26, 1981) is an American professional tennis player who is ranked No. 1 in women's singles tennis. The Women's Tennis Association (WTA) has ranked her world No. 1 in singles on six separate occasions. She became the world No. 1 for the first time on July 8, 2002, 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.

Property	Value
dbp:activeYearsStartDate	1995-09-24 (xsd:date)
dbp:birthDate	1981-09-26 (xsd:date)
dbp:birthPlace	dbr:Saginaw_Michigan
dbp:plays	Right-handed (two-handed backhand)
dbp:residence	dbr:Palm_Beach_Gardens_Florida
dbp:thumbnail	wiki-commons:Special:FilePath/Serena_Williams_Wimbledon_2015.jpg?width=300
dbp:wikiPageExternalLink	http://mashable.com/2015/09/26/serena-williams-french-open/ https://books.google.com/books?id=8915891894&pg=PA104 https://books.google.com/books?id=8915891894&pg=PA104 https://books.google.com/books?id=8915891894&pg=PA104
dbp:wikiPageID	164910 (xsd:integer)
dbp:wikiPageRevisionID	708324406 (xsd:integer)

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)

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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

“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!



www.synaptica.com

Knowledge Organization & Discovery

dave.clarke@synaptica.com



www.olasearch.com

Love your search

maish@olasearch.com

Visit us at Booth 201