



College of Information Studies

University of Maryland Hornbake Library Building College Park, MD 20742-4345

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# Linked Open Data

Session 16

INST 301

Introduction to Information Science

# Named Entity Recognition

- Machine learning techniques can find:
  - Location in the text of a reference to an entity
  - Extent of that reference (i.e., which characters)
  - Type of the entity (person, location, ...)
- Two types of features are useful
  - Orthography (e.g., paired capitalization)
  - Trigger words (e.g., Mr., Professor, said, ...)

Your query has finished



Rough'n'Ready **GTE**

Search	Topic		Person	
Clear	Organization		Location	
	Speaker		Text	
OR	Story	Jewish-Arab relations : Politics and government : Palestinian Arabs : Middle East : Israel : Terroris		
AND				

- 5 stories about: Jewish-Arab relations : Politics and government : Palestinian Arabs : Middle East : Israel : Terr
- Jewish-Arab relations : Politics and government : Palestinian Arabs : Middle East : Israel : Terrorism : Pale
  - Jewish-Arab relations : Israel : Middle East : Middle East peace negotiations : Politics and government : P

male 5

Well as all work during president Clinton's trip to New York tonight and he enjoys the performance of the opera Carmen at Lincoln Center and see the scene there is a lot of Broadway. Now earlier today Mr. Clinton announced that the UN united Nations general assembly that he plans to send a nuclear test ban treaty to the Senate the treaty bans all nuclear test explosions and is regarded as a milestone in the arms control. Two israeli security guards were wounded in an early morning shooting in Jordan a government official says three men and a car opened fire on the guard's car wounding both before Skipping guards were treated at a hospital and released it is real several West Bank villages were sealed by israeli soldiers who search for the islamic militants behind two recent suicide bombings in Jerusalem palestinian leader Yasser Arafat says that he believes those was counsel for the bombing case and abroad.

Jewish-Arab relations

Middle East peace negotiations

Middle East

Palestinian self-rule areas

Israel

Politics and government

Arafat, Yasir

Palestinian Arabs

# Reference Chaining

- Variant forms of person names
  - Nicknames, common forms of reference
- Variant forms of other references
  - Acronyms, abbreviations
- Within-document co-reference resolution
  - Named, nominal, pronominal

# Cross-Document Entity Linking

0.47

فوفقاً لأرقام مضابط البرلمان الم  
زيارة إسرائيلية الصنع المضادة  
للدبابات وأكدت المصادر أن  
الصفقة كانت أحد الموضوعات  
الرئيسية على مائدة المفاوضات  
بين شارون ونظيره البريطاني  
توني بلير.  
كانت وزارة الدفاع البريطانية  
قد أبرمت صفقة مبدئية مع  
الحكومة الإسرائيلية في عام  
2001 اشترت بمقتضاها عدداً

WIKIPEDIA  
The Free Encyclopedia

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العربية  
Asturianu  
Azərbaycanca  
Бân-lâm-gú  
Беларуская  
Беларуская (тарашкевіца)  
Bosanski  
Brezhoneg  
Бурмалех  
Català  
Česky  
Cymraeg  
Dansk  
Deutsch  
Eesti

**Tony Blair**

From Wikipedia, the free encyclopedia

For other uses, see [Tony Blair \(disambiguation\)](#).

**Anthony Charles Lynton Blair** (born 6 May 1953)<sup>[1]</sup> is a former British Labour Party politician who served as the Prime Minister of the United Kingdom from 2 May 1997 to 27 June 2007. He was the Member of Parliament (MP) for Sedgefield from 1983 to 2007 and Leader of the Labour Party from 1994 to 2007. He resigned from all of these positions in June 2007.

Tony Blair was elected Leader of the Labour Party in the leadership election of July 1994, following the sudden death of his predecessor, John Smith. Under his leadership, the party adopted the term "New Labour"<sup>[2]</sup> and moved away from its traditional left wing position towards the centre ground.<sup>[3][4]</sup> Blair subsequently led Labour to a landslide victory in the 1997 general election. At 43 years old, he became the youngest Prime Minister since Lord Liverpool in 1812. In the first years of the New Labour government, Blair's government implemented a number of 1997 manifesto pledges, introducing the minimum wage, Human Rights Act and Freedom of Information Act, and carrying out regional devolution, establishing the Scottish Parliament, the National Assembly for Wales, and the Northern Ireland Assembly.

Blair's role as Prime Minister was particularly visible in foreign and security policy, including in Northern Ireland, where he was involved in the 1998 Good Friday Agreement. From the start of the War on Terror in 2001, Blair strongly

The Right Honourable  
**Tony Blair**



Blair at the World Economic Forum in Davos, Switzerland (29 January 2008)

**Prime Minister of the United Kingdom**  
In office  
2 May 1997 – 27 June 2007

**Monarch** Elizabeth II  
**Deputy** John Prescott  
**Preceded by** John Major  
**Succeeded by** Gordon Brown

**Leader of the Opposition**  
In office

# Example: Bibliographic References

15. Faloutsos, C., Oard, D. (1995). "A Survey of Information Retrieval and Filtering Methods," avail. As UMIACS-TR-95-33, College Park: U of MD.

[11] Faloutsos, C. and Oard, D. W., "A Survey of Information Retrieval and Filtering Methods", University of Maryland, Technical Report CS-TR-3514, August 1995.

[47] Christos Faloutsos and Douglas W. Oard. A survey of information retrieval and filtering methods. Technical Report CS-TR-3514, University of Maryland, August 1995. <http://www.enee.umd.edu/medlab/filter/papers/survey.ps>.

[Faloutsos] Christos Faloutsos and Douglas Oard, A Survey of Information Retrieval and Filtering Method,  
<[URL:http://www.glue.umd.edu/enee/medlab/filter/papers/survey.ps](http://www.glue.umd.edu/enee/medlab/filter/papers/survey.ps)>

# Microformats

microformat

URL

```
<div class="h-card">  
<p><img class="u-photo" href="/me.png" alt="" /></p>  
<p class="p-name"> <a href="u-url"  
  href="http://waterpigs.co.uk">Barnaby Walters</a> </p>  
</div>
```

plain-text

About 647,000 results (0.40 seconds)

## The Original Ledo Restaurant - A Marcos Family Restaurant

[www.ledorestaurant.com/](http://www.ledorestaurant.com/) ▾

The Original opened in 1955 by Tommy Marcos Sr. They moved the restaurant to the new location in College Park and it is still owned and operated by Tommy ...

3.8 ★★★★★ 39 Google reviews · [Write a review](#)

4509 Knox Rd, College Park, MD 20740  
(301) 422-8122

### Menu

The Original Ledo Restaurant - A  
Marcos Family Restaurant.

### Location

map-generator.net. This information  
is provided by ...

[More results from ledorestaurant.com »](#)

## Ledo Restaurant - College Park, MD | Yelp

[www.yelp.com](http://www.yelp.com) ▸ [Restaurants](#) ▸ [Pizza](#) ▾ [Yelp](#) ▾

★★★★★ Rating: 3.5 - 116 reviews - Price range: \$\$

116 Reviews of Ledo Restaurant "Pizzzzzzzaaaaaa! Is what was racing through my mind as soon as I arrived. My coworker raved about the pizza here and I ...

## Ledo Pizza - Wikipedia, the free encyclopedia

[en.wikipedia.org/wiki/Ledo\\_Pizza](http://en.wikipedia.org/wiki/Ledo_Pizza) ▾ [Wikipedia](#) ▾

Ledo Pizza is a pizzeria restaurant chain in the Mid-Atlantic and Southeastern United States, with the heaviest concentration in Maryland and Virginia. Their first ...

## Ledo Pizza is Unbeatable - Review of Ledo Restaurant ...

[www.tripadvisor.com](http://www.tripadvisor.com) ▸ ... ▸ [Ledo Restaurant](#) ▾ [TripAdvisor](#) ▾

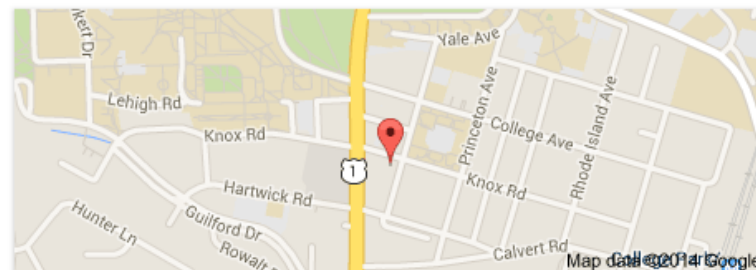
★★★★★ Rating: 5 - Review by a TripAdvisor user - Mar 3, 2011

Ledo Restaurant: Ledo Pizza is Unbeatable - See 36 traveler reviews, 3 candid photos, and great deals for College Park, MD, at TripAdvisor.

## Ledo Pizza - Handcrafted Pizza Since 1955

[ledopizza.com/](http://ledopizza.com/) ▾ [Ledo Pizza](#) ▾

Franchise neighborhood restaurant, which also serves pasta and salads. Locations in eastern United States.



## The Original Ledo Restaurant

[Directions](#)[Write a review](#)

**Address:** 4509 Knox Rd, College Park, MD 20740

**Phone:** (301) 422-8122

**Prices:** \$\$\$\$

**Hours:** Open today · 9:00 am – 10:00 pm

**Menu:** [urbanspoon.com](http://urbanspoon.com)

### Reviews

3.8 ★★★★★ 39 Google reviews

Local favorite since 1955 for pies with a unique flaky, rectangular crust & Italian standards. - Google



"Excellent thin crust." 4 reviewers



"If all Ledo's are not the same, then I learned a new lesson today." 7 reviewers



"The Hostess then sat down on the hostess stand on top of the clean napkins."

[View all Google reviews](#)

**More reviews:** [washingtonpost.com](http://washingtonpost.com), [washingtoncitypaper.com](http://washingtoncitypaper.com),



# Semantic Search

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## ▼ item type

Person (1)

Astronaut (1)

## ▼ nationality

Switzerland (1)

## ▼ born in year year

1944 (1)

[Fewer](#) | [More Facets](#)

## Your Filters

[Reset Filters](#)✕

Results 1 to 1 of 1

nationality Switzerland✕ text search for astronaut✕



### Claude Nicollier



Claude Nicollier is the first astronaut from Switzerland and has flown on several Space Shuttle missions. He was appointed full professor of Spatial Technology at the École Polytechnique Fédérale de Lausanne on 28 March 2007.

[First](#) | [Previous](#) | [Next](#) | [Last](#)supported by **neofonie\*** OPEN

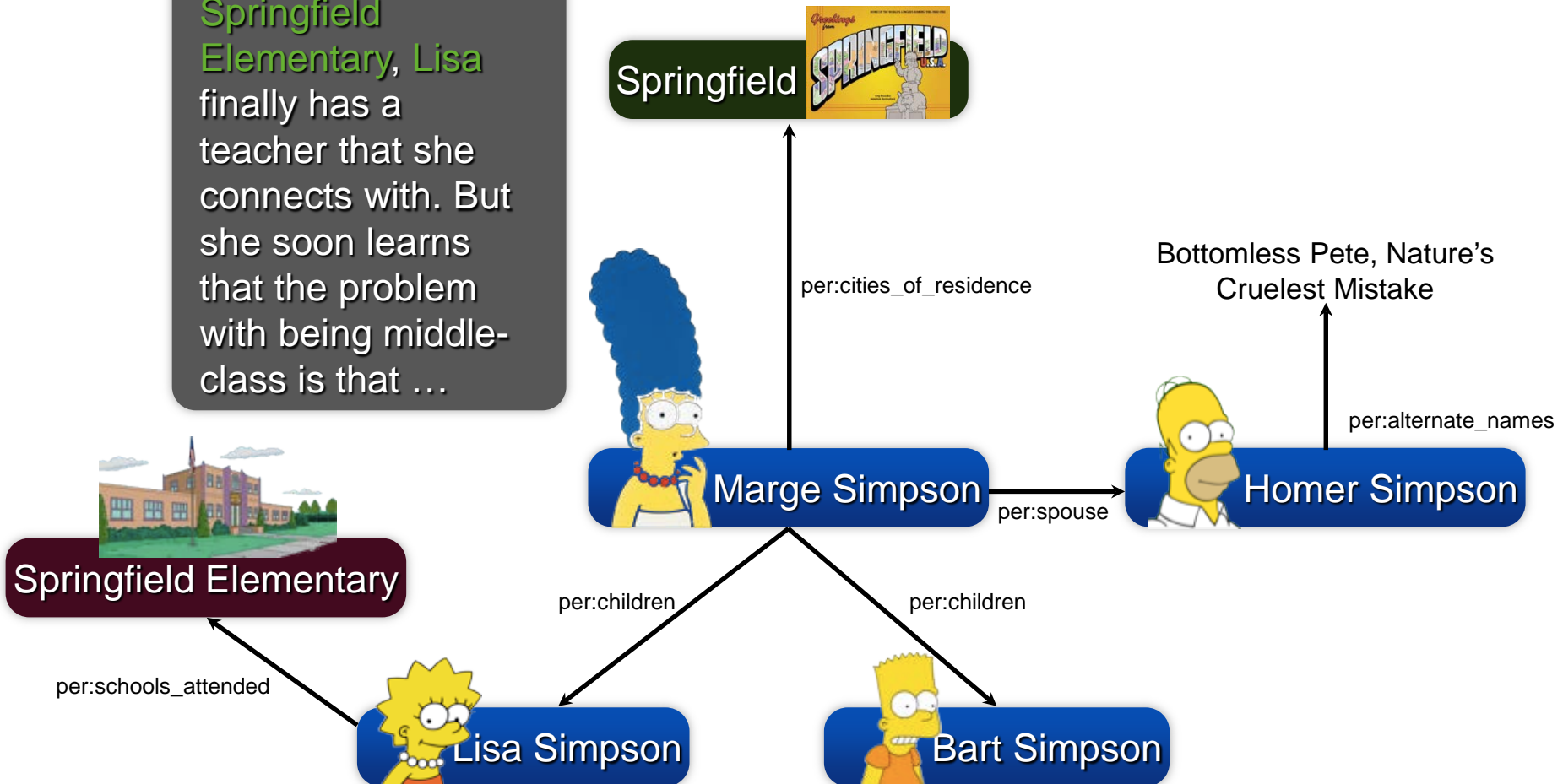
# Web Ontology Language (OWL)

```
<owl:Class rdf:about="http://dbpedia.org/ontology/Astronaut">  
  <rdfs:label xml:lang="en">astronaut</rdfs:label>  
  <rdfs:label xml:lang="de">Astronaut</rdfs:label>  
  <rdfs:label xml:lang="fr">astronaute</rdfs:label>  
  <rdfs:subClassOf  
    rdf:resource="http://dbpedia.org/ontology/Person">  
  </rdfs:subClassOf>  
</owl:Class>
```

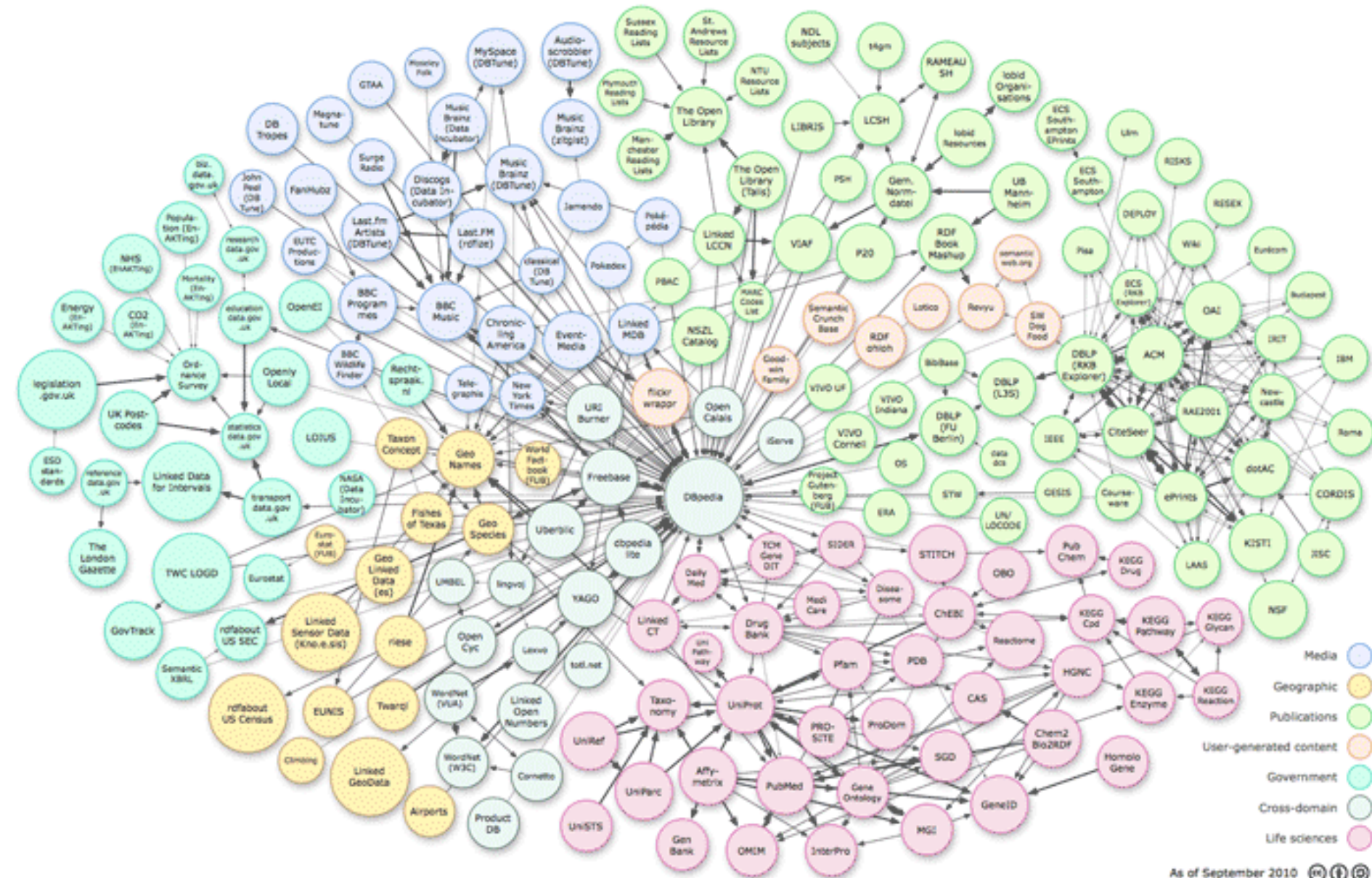
When Lisa's mother  
Marge Simpson  
went to a weekend  
getaway Relaxo,

After two years in  
the academic  
quagmire of  
Springfield  
Elementary, Lisa  
finally has a  
teacher that she  
connects with. But  
she soon learns  
that the problem  
with being middle-  
class is that ...

# Knowledge-Base Population



# Linked Open Data



# BIBFRAME

