

ITem Recommender (ITR) Content-based Recommender for Personalized Information Access

Pasquale Lops

Meeting MICHAEL-DELOS

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LACAM - Knowledge Acquisition and Machine Learning Lab
Department of Computer Science - University of Bari

Personalized Portals

Change colors: Simple White | Classic Blue | Make MSN my home page

Select a Category: **Web** | News | Images | Music | Desktop ^{BETA} | Encarta

msn Search the Web: Search

News & Sports | MSN Video | News | Slate Magazine | Sports by FOX Sports | Weather

Look it Up | City Guides | Encarta | Maps & Directions | Search the Web | White Pages | Yellow Pages

Living & Finances | Autos | Careers & Jobs | Credit Report | Dating & Personals | Health & Fitness | House & Home | Money | Taxes

Thursday, Mar 17

HOTMAIL | **MESSENGER** | **MY MSN** | **SIGN IN**

Log on, sync up, and access information from virtually anywhere.

St. Paddy's Day: Where to Party
Parades, pubs & pints of green beer in 23 cities
• See 27 'green' e-cards
• Sample Irish tunes: U2, The Pogues & more

msn My MSN Search the Web: Search Help

msn Spaces

Add content | Change colors | Add column | Add page | Add New York Times Travel to My MSN

Column Options

Welcome marko
This day in history

Add Content
Search or choose from MSN recommended sources for content to add to your page. My MSN accepts RSS sources.
Search for content to add:

My favorite links
Microsoft
MSNBC News
Hotmail
Change details

Today on MSN
Thursday, Mar 17

Why Lenders Share Blame for ID Theft
Agencies' lenient policies aid & abet the bad guys
• 10 tips to stop ID theft
• Do you know an identity thief? 8 signs

Highlights
• 10 hot businesses to start now
• Worst 'Green Score' vehicles
• Sale: Up to 75% off luxury bedding
• Book smarts vs. street smarts
• Offer: Prep for spring & hire a pro
• Offer: Free Hotmail from MSN

MSNBC Front Page news
Peterson gets death penalty
A judge on Wednesday sentenced Scott Peterson to death for the murder of his wife and their unborn child.
• Jury finds Blake not guilty

Weather forecast
Get quick forecast:

Los Angeles, CA
Today: 69°/54°F
Fri: 63°/53°F
Sat: 60°/53°F
Sun: 62°/53°F
London, United Kingdom: 60°/51°F
New York, NY: 46°/33°F
Provided by The Weather Channel®
Change details
Travel Conditions · Pollen Reports · Lawn & Garden

Stock quotes
Get quick quote:

Name/Symbol	Last Change
Dow (\$INDU)	10,633.07 -112.03
NASDAQ (\$COMPX)	2,015.75 0.00
S&P (\$INX)	1,188.07 0.00

Quotes supplied by Comstock, 20 min. delay

Personalized Stores

The screenshot shows the Amazon.com homepage with several elements highlighted by red boxes:

- Navigation:** The "YOUR ACCOUNT" link in the top right navigation bar is highlighted.
- Store Navigation:** The "YOUR STORE" button in the main navigation bar is highlighted.
- Search:** The search bar contains "All Products:" and "GO!". The "Browse:" dropdown menu is set to "Books" and also has a "GO!" button.
- Personalized Store Section:** A yellow banner contains the text "Like what you see here? Come directly to Your Store by visiting my.amazon.com". Below this, a box titled "Recommended for you (Click here to sign in.)" contains:
 - A "BROWSE RECOMMENDED" section with links for "Just for Today" (Page You Made (1), Your Watch List (Beta)) and "Recommendations".
 - A list of "All Stores" including Apparel, Baby, Books, DVD, Electronics, Outdoor Living, Tools & Hardware, Jewelry, Kitchen & Housewares, and Magazine.
- Customer Sign-in:** A box titled "Returning customer? Sign in to get your personalized recommendations." and "New customer? Make Recommended for You just for you! It's free and easy and requires no credit card or personal information." contains a "Personalize now!" button.
- Product Recommendations:** A "Top Sellers" section lists:
 - "Harry Potter and the Half-Blood Prince (Book 6)" by J. K. Rowling, Mary GrandPré (Illustrator), published July 16, 2005. Price: \$17.99. Buttons: "Pre-order this item", "Add to Wish List".
 - "SEARCH INSIDE! The Purpose-Driven Life: What on Earth Am I Here For?"

Intelligent Information Access

1. **Personalized** Access by **user profiles** +
2. **Semantic** Access by **concept identification** in documents

USER PROFILE: A STRUCTURED REPRESENTATION OF USER INTERESTS AND PREFERENCES



- ① Automated induction of user profiles by means of supervised machine learning techniques
- ② Taking into account the meaning of the words

Problems with Keywords: Polisemy



Web [Images](#) [Groups](#) [News](#) [Froogle](#) [Local](#) [more »](#)

bat

Search

[Advanced Search](#)
[Preferences](#)

Web

Results 1 - 10 of about 15,100,000 for bat [\[define\]](#)

[Bat Conservation International](#)

Explore the world of bats through the articles, photos, and trivia.

www.batcon.org/ - 2k - [Cached](#) - [Similar pages](#)

[British American Tobacco - Home](#)

- Home
- What's New
- Mission
- Accomplished
- Brochure
- E-Newsletter
- Wish List
- News Archive

- + Join/Renew
- + Get Involved
- + Publications
- + Projects
- + Discover
- + Catalog
- + Help
- Contact/Staff
- Bat Links
- Search
- Site Maps

welcome to
BAT CONSERVATION INTERNATIONAL



Welcome to the amazing world of bats!



BCI's mission is to teach people the value of bats, to protect and conserve critical bat habitats, and to advance scientific knowledge through research. All this while using a win-win solution that will benefit both bats and people.



We invite you to explore our site and learn more about these unique animals.



Celebrating
20 Years!



Problems with Keywords: Synonymy



Web Images Groups News Froogle Local more »

chiropteran

Search

[Advanced Search](#)
[Preferences](#)

Web

Results 1 - 10 of about 7,350 for **chiropteran** [\[define\]](#)

[Chiropteran Flight](#)

Vertebrate Flight. 5.3: **Chiropteran** Flight. The Chiroptera, or bats, are the second most diverse group of mammals, and are the only mammals ever to evolve ...

www.ucmp.berkeley.edu/vertebrates/flight/bats.html - 5k - [Cached](#) - [Similar pages](#)

[Definition of chiropteran - WordReference.com Dictionary](#)

chiropteran Definition from dictionary. ... 1, bat, **chiropteran**. nocturnal mouselike mammal with forelimbs modified to form membranous wings and anatomical ...

www.wordreference.com/definition/chiropteran - 9k - 2 Jul 2005 - [Cached](#)

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Definition of **chiropteran** in the Online Dictionary. Meaning of **chiropteran**. What does **chiropteran** mean? **chiropteran** synonyms, **chiropteran** antonyms, **chiropteran** pronunciation.

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monger.vekn.org/showcard.html?ID=908

[Similar pages](#)

[Further Studies on the Chiropteran Fauna of the Polillo](#)

File Format: PDF/Adobe Acrobat - [View as HTML](#)

major reason why **chiropteran** surveys are popular among students, ... present these surveys rely almost exclusively on mist nets and as a result ...

mampam.50megs.com/polillo/2001/pdf/PolilloBatSurveys2001.PDF -

[chiropteran - yourDictionary.com - American Heritage Dic](#)

Search Mamma.com for "**chiropteran**" TYPE IN YOUR WORD & CLICK GO! Search: Normal

BATCON.ORG
BAT CONSERVATION INTERNATIONAL, INC.

Congress Avenue Bridge Join or Renew

welcome to
BAT CONSERVATION INTERNATIONAL

Welcome to the amazing world of bats!

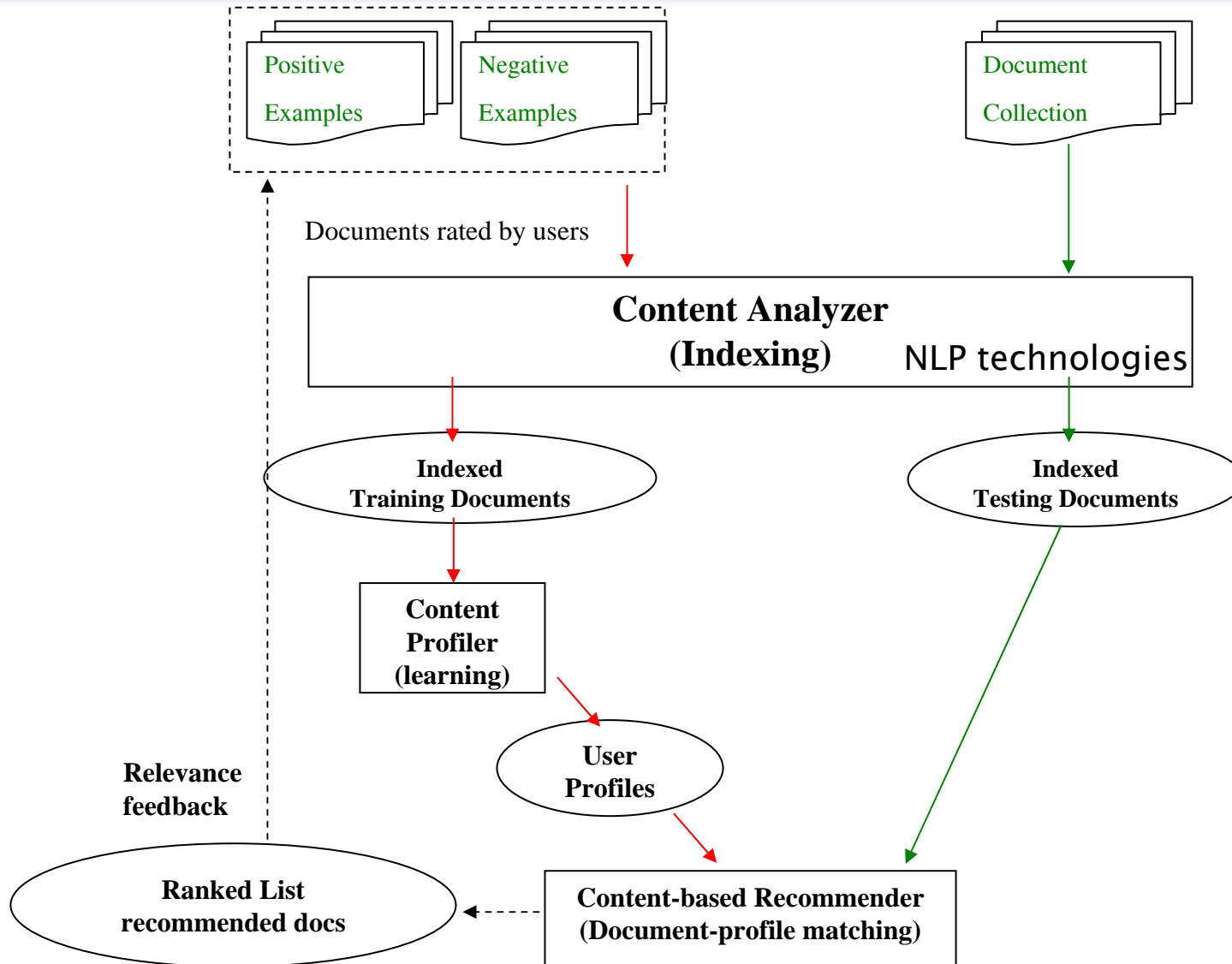
BCI's mission is to teach people the value of bats, to protect and conserve critical bat habitats, and to advance scientific knowledge through research. All this while using a win-win solution that will benefit both bats and people.

We invite you to explore our site and learn more about these unique animals.

Celebrating 20 Years!

Missed!

Intelligent Personalized Information Access



Intelligent Search Engines?

mosca, Nome

- [1] - insetto dei ditteri
([mosca](#) [1])

▼

- [2] - esca artificiale che assomiglia ad un insetto
([mosca](#) [2])

▼

- [3] - persona noiosa e petulante
([mosca](#) [3])

▼

Mosca, Nome Proprio

- [1] -
([mosca](#) [1])

▼

- [2] -
([mosca](#) [2])

▼

ItalWordNet

Mostra tutte le relazioni

Google **Web** Immagini Gruppi Directory News

[Ricerca avanzata](#)
[Preferenze](#)

Cerca: il Web pagine in Italiano pagine provenienti da: Italia

Web Risultati

Forse cercavi: [mosca](#)

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... Gratis! Incluye tu web en los mejores buscadores del mundo: Google, Hotbot, AllTheWeb... La página <http://mossca.galeon.com/> no está en Galeon. ...
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Foro di Discussión: Comentario: Comentario...

Intelligent Personalized Search Engines

Application Scenario

Conference Participant Advisor

A service based on ITR realized in
the VIKEF Project

Ongoing & Future Works

- ① Entity Recognition
- ② Integration of domain-specific ontologies
- ③ Lexical Resources for Italian



Synset Semantic Similarity

24: function SINSIM(a, b)

▷ The similarity of the synsets a and b

25: $N_p \leftarrow$ the number of nodes in path p from a to b

26: $D \leftarrow$ maximum depth of the taxonomy

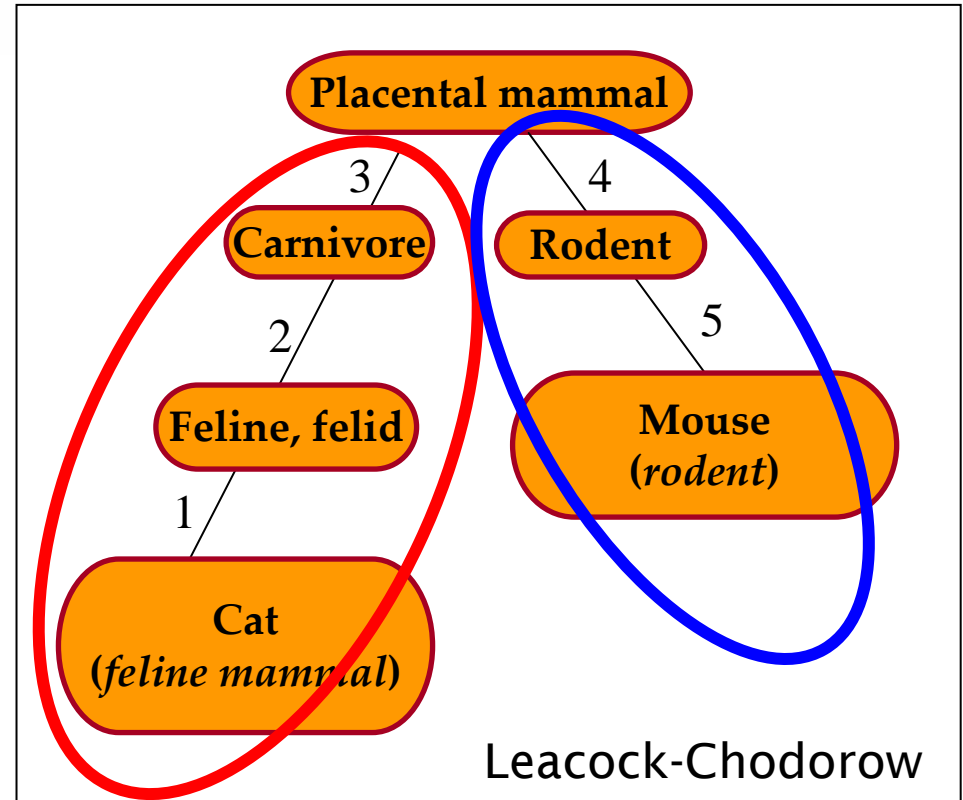
▷ In WordNet 1.7.1 $D = 16$

27: $r \leftarrow -\log(N_p/2D)$

28: return r

29: end function

$$\text{SINSIM}(\text{cat}, \text{mouse}) = \\ -\log(5/32) = 0.806$$



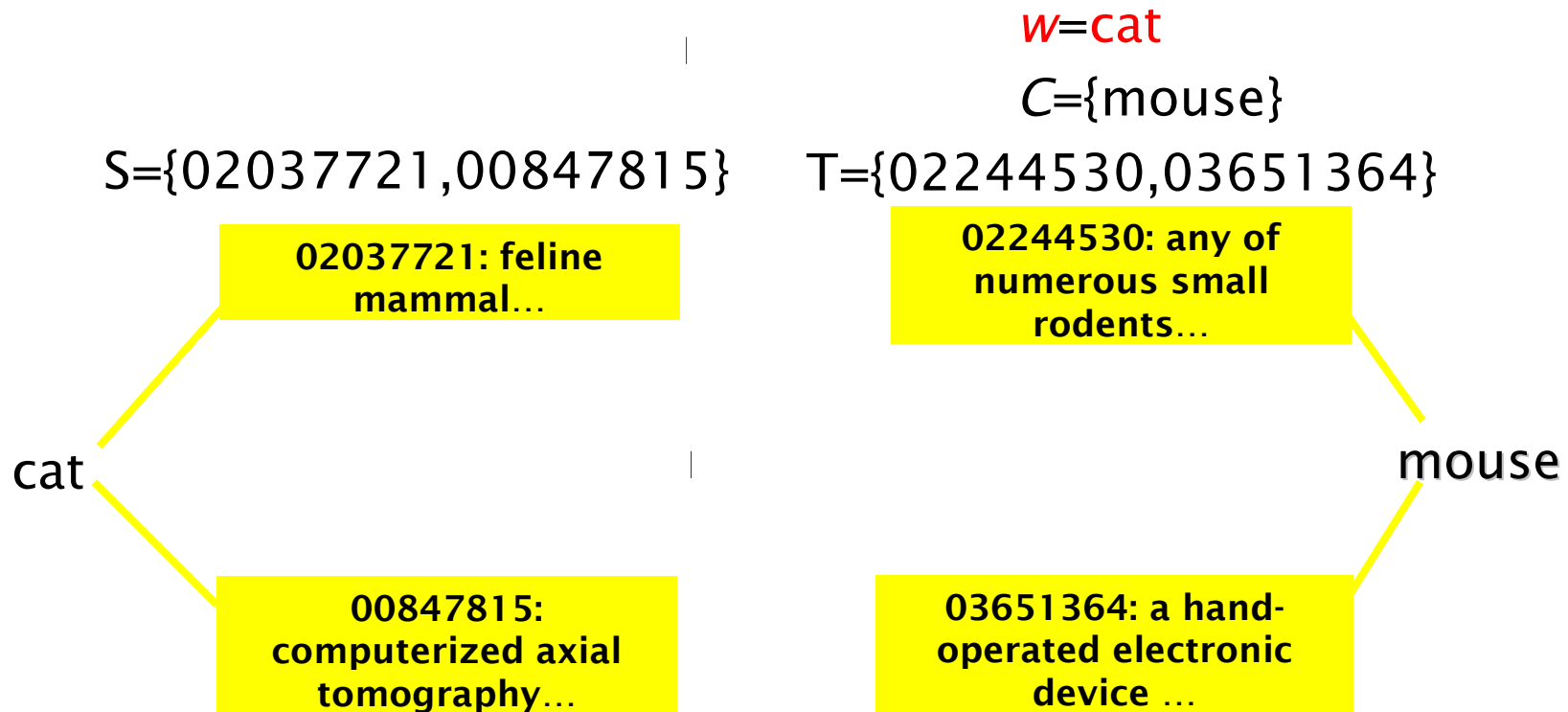
Leacock-Chodorow

[Fellbaum 1998]

“Cat-Mouse” Disambiguation

1/2

“The white cat is hunting the mouse”



“Cat-Mouse” Disambiguation

“The white cat is hunting the mouse”

