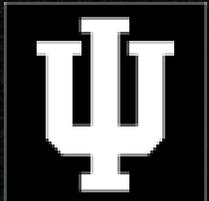


Social Web Search

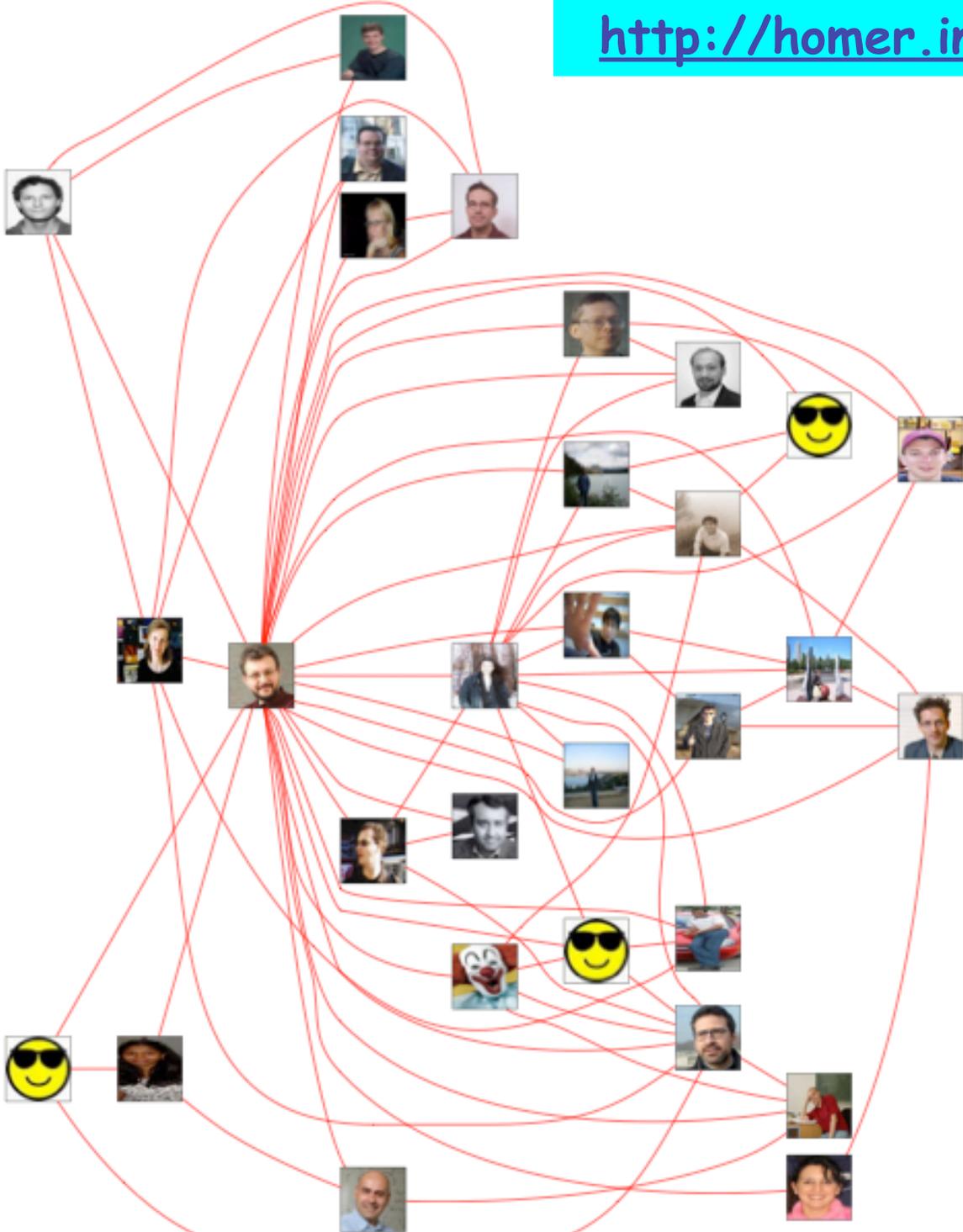
Filippo Menczer

Informatics and Computer Science

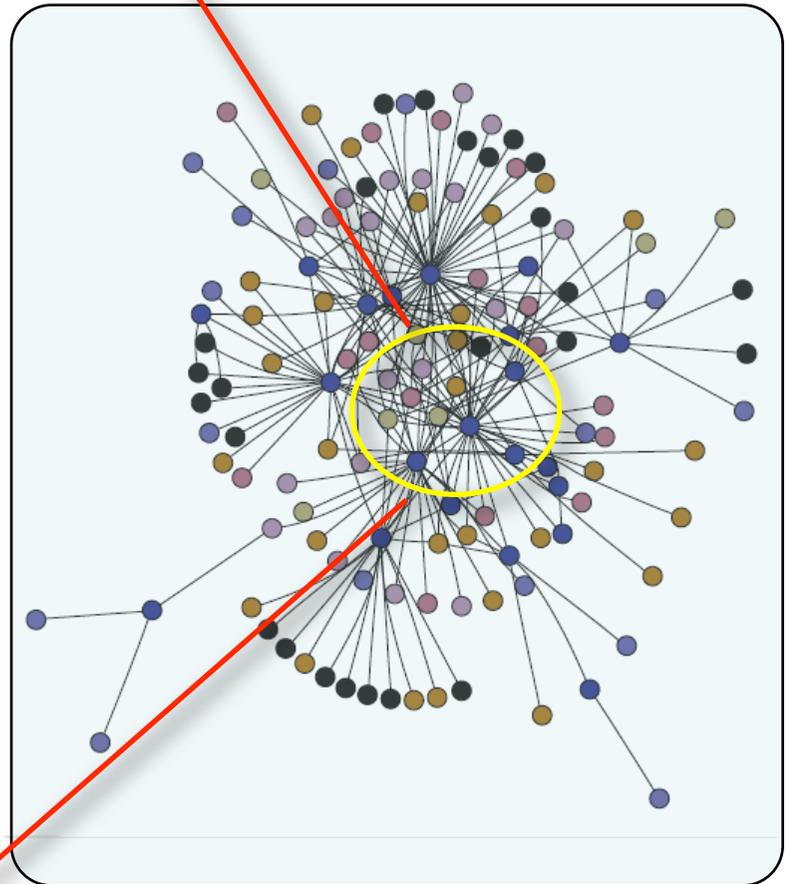
Leveraging online social behavior
for collaborative Web search



<http://homer.informatics.indiana.edu/~nan/>



NaN:
Networks
& agents
Network



Outline

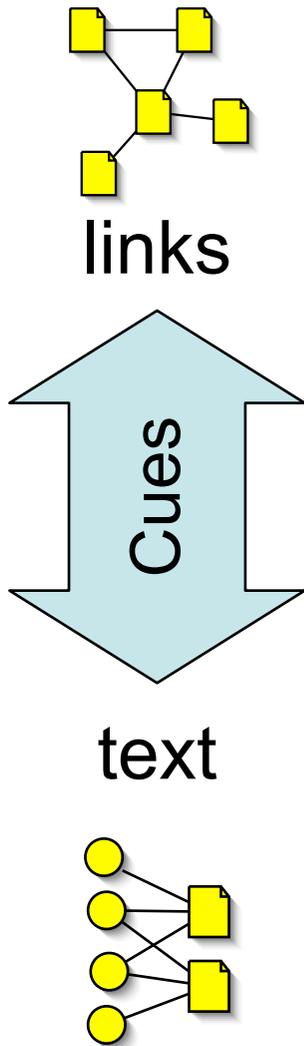


- Part 1: GiveALink.org
- Part 2: 6S



givealink.org

76788 links
1015 donations
117 registered users
Last updated: Apr 17, 2006



author

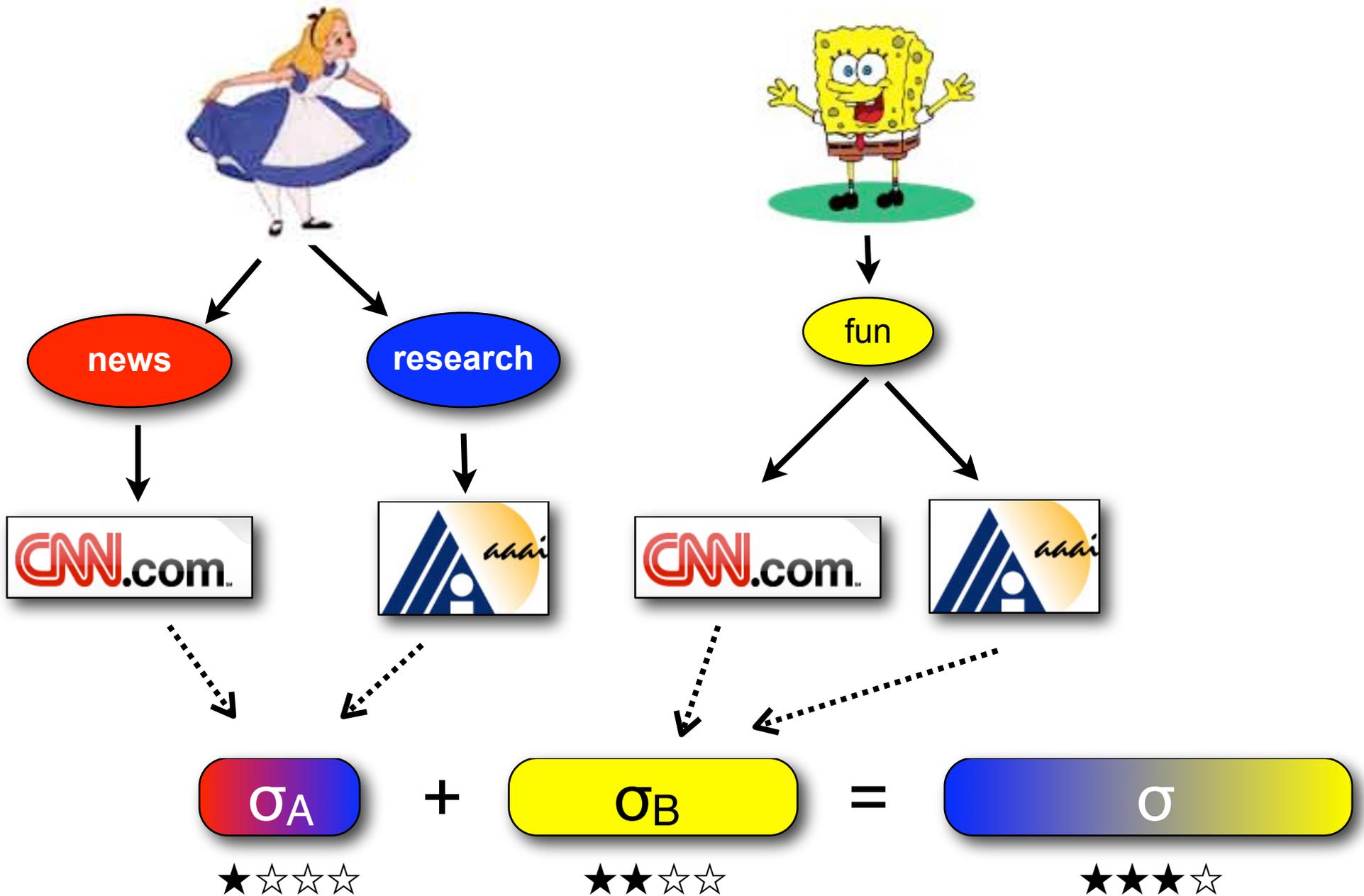
social





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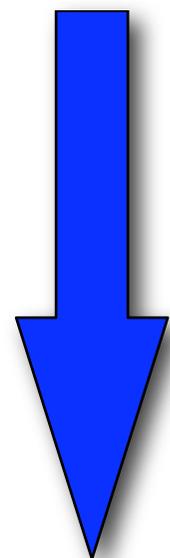


$\sigma(x, y)$

$$= \frac{1}{N} \sum_{u=1}^N$$

$$\frac{2 \log \left(\frac{|F_u[a(x,y)]|}{|R_u|} \right)}{\log \frac{|F_u(x)|}{|R_u|} + \log \frac{|F_u(y)|}{|R_u|}}$$

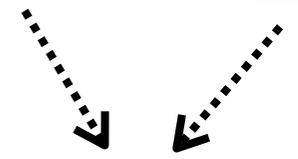
$$\log \frac{|F_u(x)|}{|R_u|} + \log \frac{|F_u(y)|}{|R_u|}$$



$F_A(x)$

$F_A(y)$

$F_B(a(x,y))$



+



=

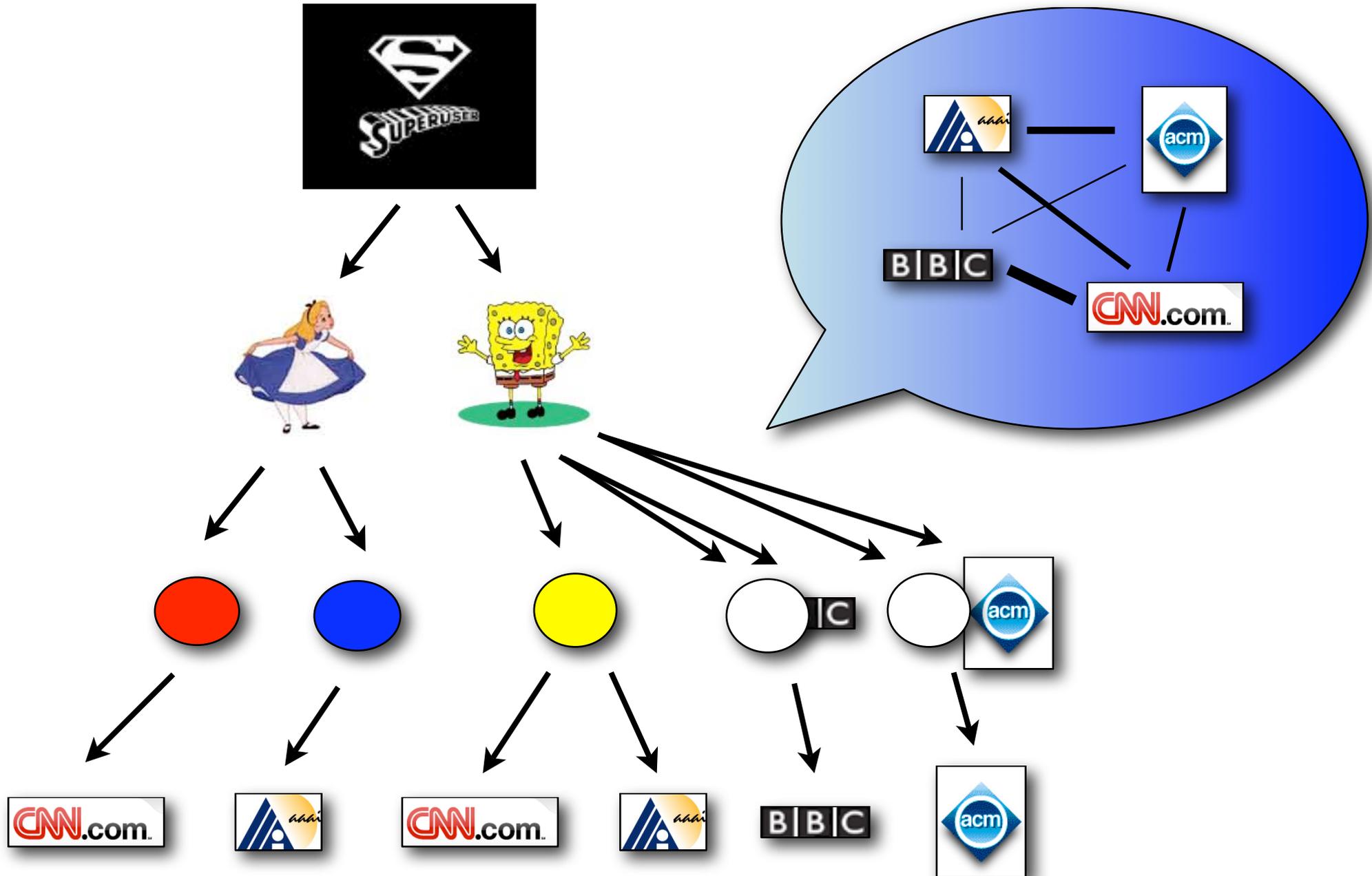


$\sigma(x,y)$



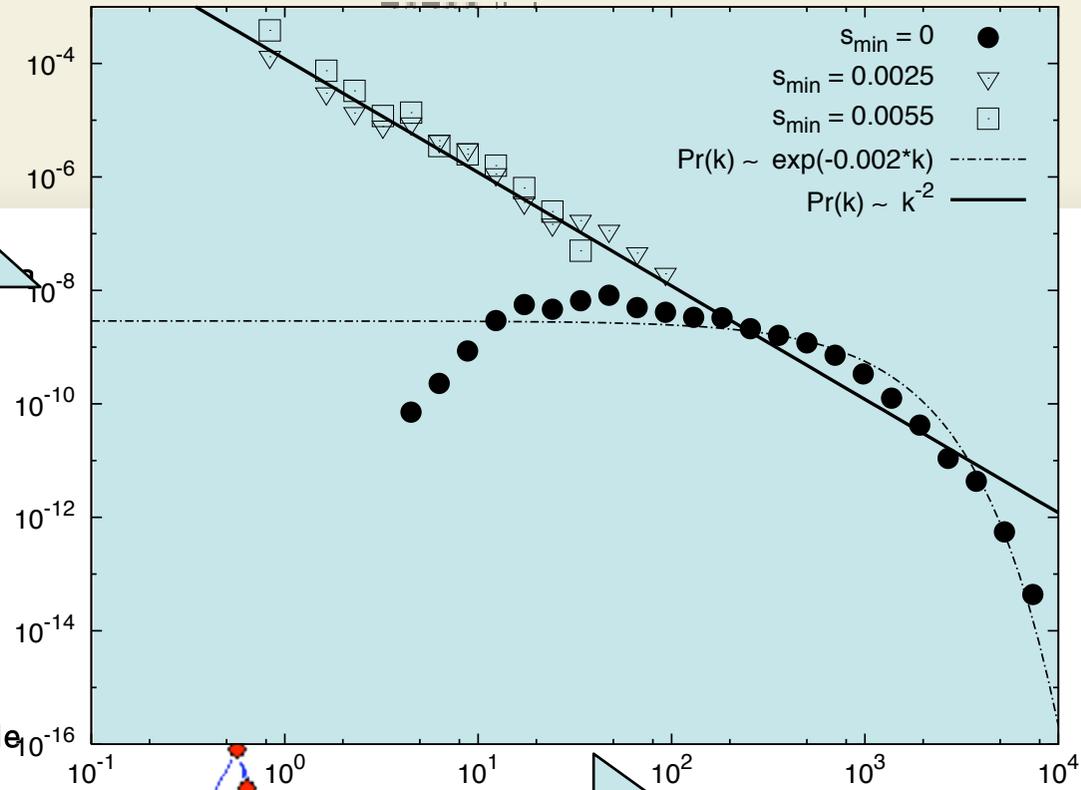
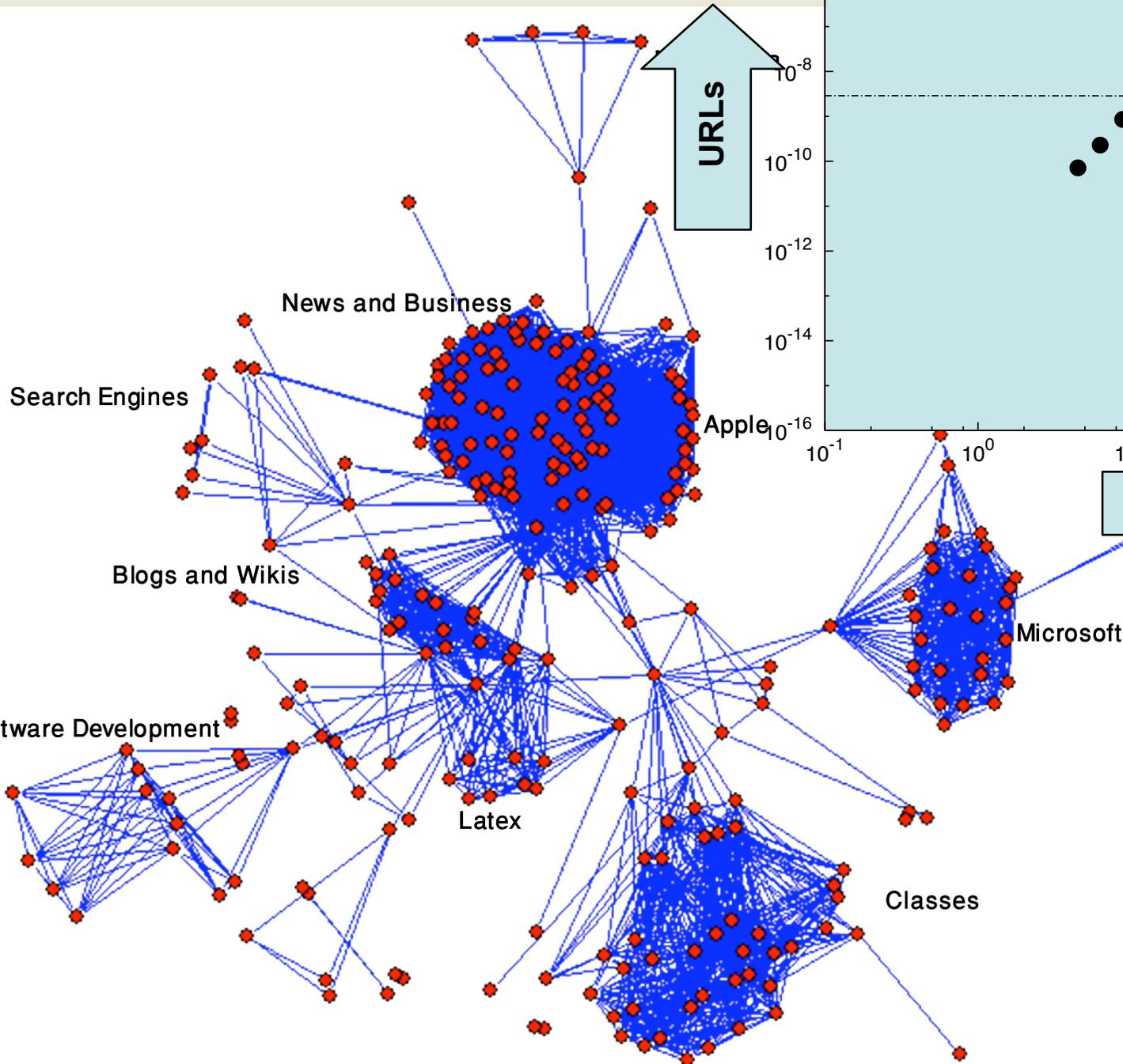
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givealink.org



degree



Link Recommender

Enter URL or keyword to get related bookmarks. ([More Options](#))

Sort by Bookmark: Similarity ? Novelty ? Prestige ?

Similar URLs sorted by Similarity

1-10 of 360 recommendations for <http://www.webir.org/>

<http://www.parc.xerox.com/istl/groups/lea/dynamics.shtml>

<http://www.parc.xerox.com/istl/groups/lea/dynamics.shtml>

http://www.springer.de/cgi-bin/search_book.pl?isbn=3-540-65112-8

http://www.springer.de/cgi-bin/search_book.pl?isbn=3-540-65112-8

[Web Research Collections - Web Track](#)

<http://es.csiro.au/TRECWeb/>

[DIMACS Workshop on Internet and WWW Measurement, Mapping and Modeling](#)

<http://dimacs.rutgers.edu/Workshops/Internet/>

<http://www.ibm.com/java/fetuccino/>

<http://www.ibm.com/java/fetuccino/>

[Web Term Document Frequency Form](#)

<http://elib.cs.berkeley.edu/docfreq/index.html>

[Finding Out About](#)

<http://www.cs.ucsd.edu/~rik/foa/>

[Bibliometrics of the World Wide Web: An Exploratory Analysis of the Intellectual Structure of Cyberspace](#)

<http://sherlock.berkeley.edu/asis96/asis96.html>

[Terabyte TREC Homepage](#)

<http://www-nlpir.nist.gov/projects/terabyte/>

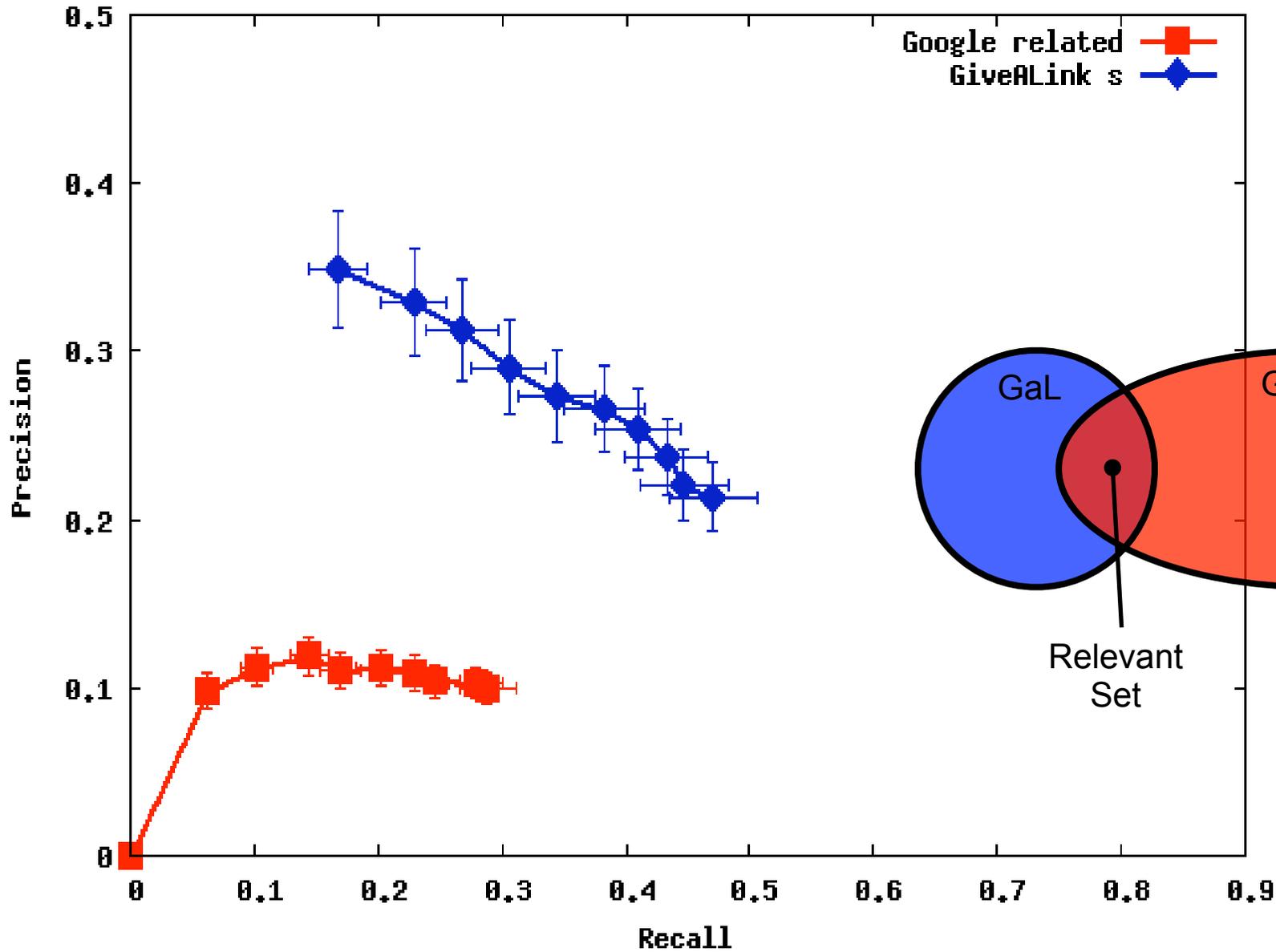
<http://www.neci.nj.nec.com/homepages/lawrence/websize.html>

<http://www.neci.nj.nec.com/homepages/lawrence/websize.html>

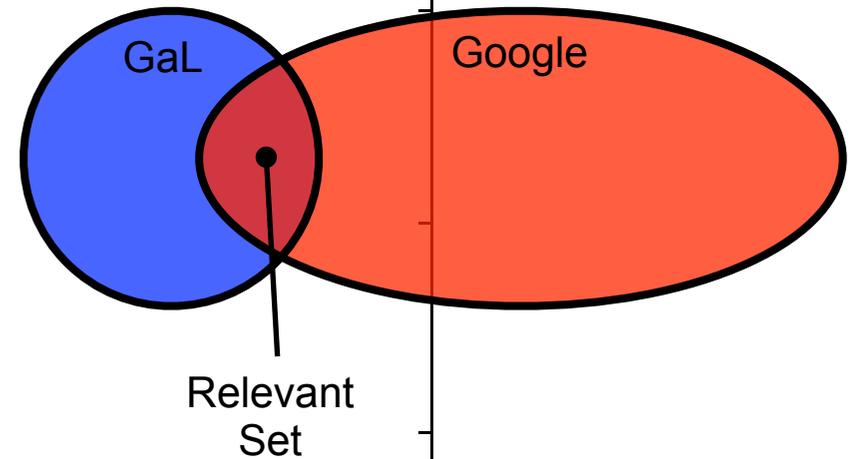


givealink.org

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117 registered users
Last updated: Apr 17, 2006



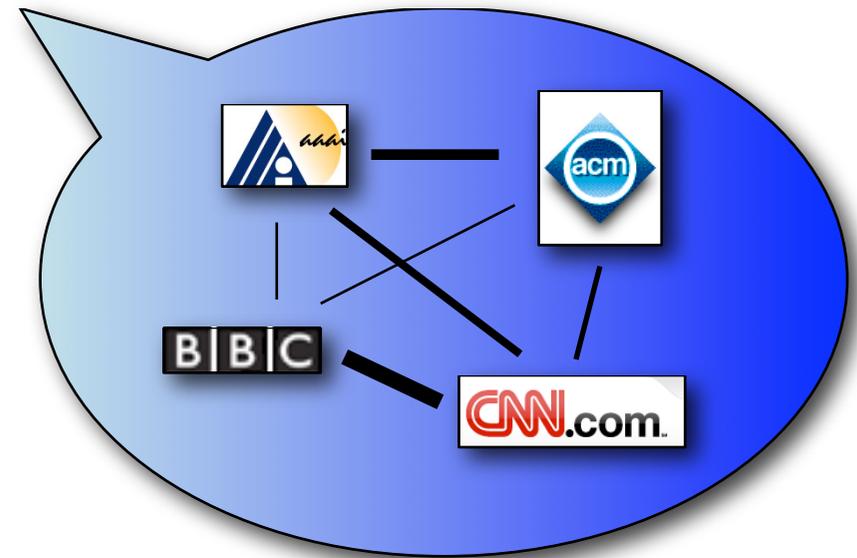
User Study





$$c(x) = \frac{1}{|U|} \sum_{y \in U} \left[1 + \min_{x \rightsquigarrow y} \sum_{(u,v) \in x \rightsquigarrow y} \left(\frac{1}{\sigma(u,v)} - 1 \right) \right]^{-1}$$

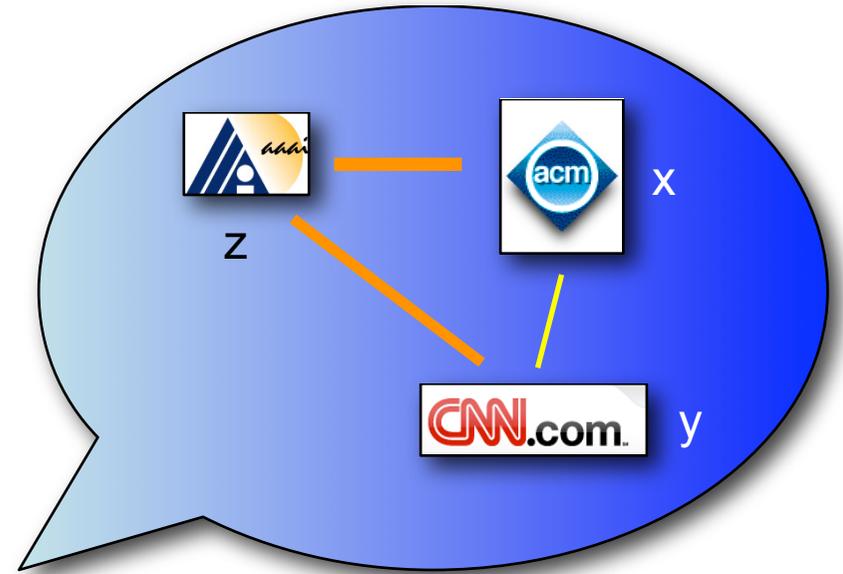
Centrality & Prestige



$$p_{t+1}(x) = (1 - \alpha) + \alpha \cdot \sum_{y \in U} \frac{\sigma(x, y) \cdot p_t(y)}{\sum_{z \in U} \sigma(y, z)}$$



Ranking & Recommendation by Novelty

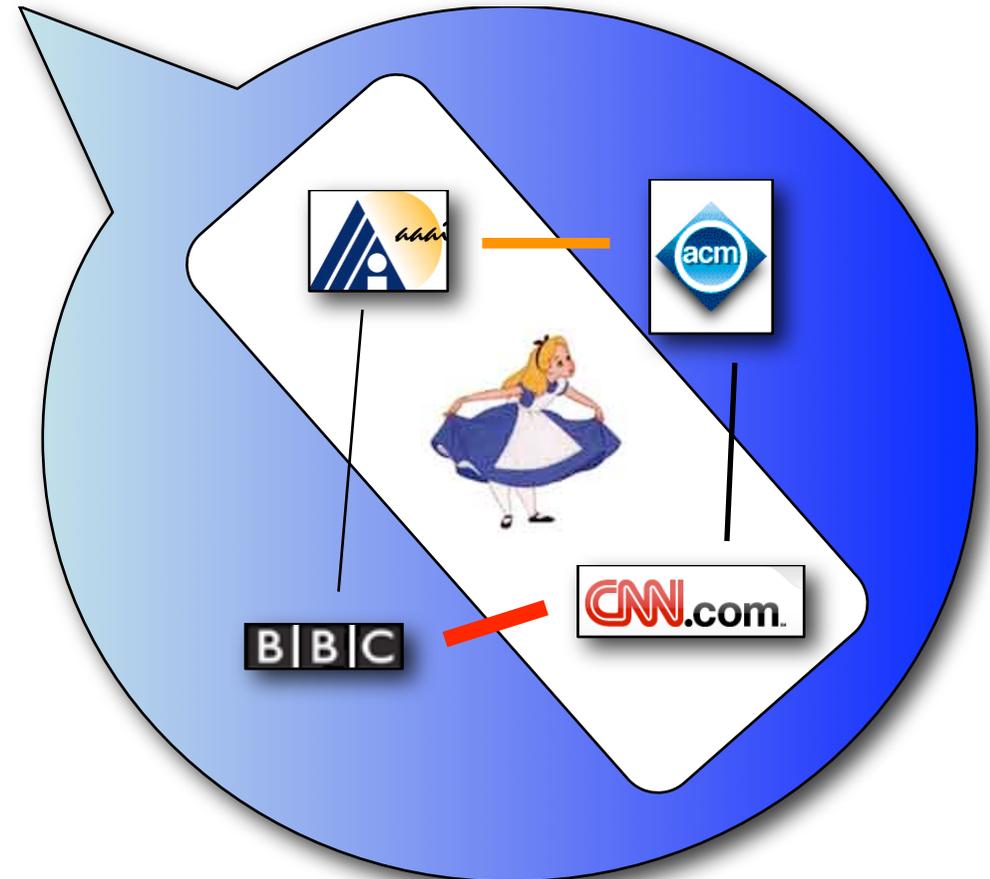


$$\nu(x, y) = \frac{\left[1 + \min_{z \in U} \left(\frac{1}{\sigma(x, z)} + \frac{1}{\sigma(z, y)} - 2 \right) \right]^{-1}}{\sigma(x, y)}$$



$$\eta(x, A) = \max_{y \in A} \left[\sigma(x, y) \cdot \log \left(\frac{N}{N(y)} \right) \right]$$

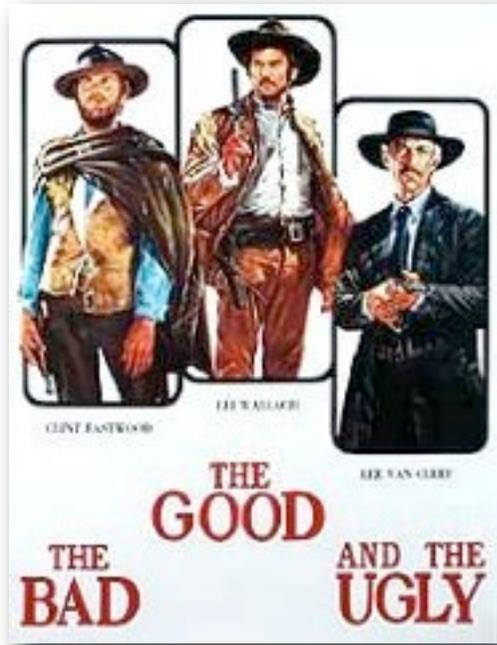
Personalization





collaborative filtering,
social semantic similarity,
unlinked pages,
multimedia content, trust

scalability,
density



spam

General

Surprise Me

Getting Started

1. [Register](#)
2. [Donate your bookmarks to science](#)
3. [Get personalized recommendations/search results](#)
Also [manage your bookmarks](#) or add a new URL while you browse
4. [Spread the word!](#)
More users means more data means better results!

Top Ten Bookmarks ?

1. <http://www.iuma.com/>
2. [Sonicnet.com](#)
3. [Error](#)
4. [the prog organ - progressive rock reviews](#)
5. [Hard Rock and Heavy Metal Radio - Video](#)
6. [GODS OF MUSIC - Music Reviews For The Independent Music Scene](#)
7. [RUTHLESS REVIEWS: MUSIC](#)
8. [Welcome! -- Rate Your Music](#)
9. [Tiny Mix Tapes](#)
10. [Reviews of Indie Albums on Irish music webzine CLUAS.com](#)

Stats

81949 links
3277880 relationships
1049 donations
184 registered users
Last Updated: Sat Aug 5 16:10:58 2006

Questions?



Outline

- Part 1: GiveALink.org
- Part 2: 6S (next semester)

