UNIVERSITÀ DI PISA

WISER

Un motore di ricerca semantico per «expertise»

Paolo Ferragina, Università di Pisa

Airi ASSOCIAZIONE ITALIANA PER LA RICERCA INDUSTRIALE

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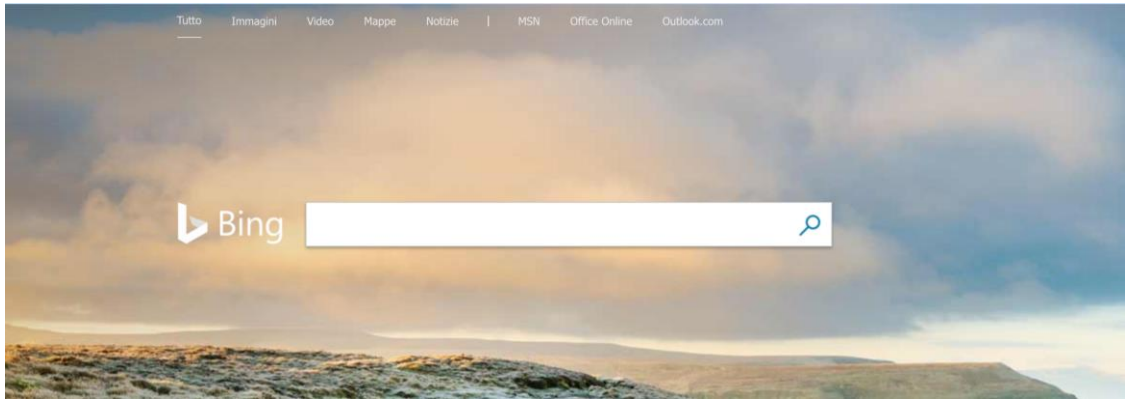

Il nostro obiettivo

Come possiamo rendere più efficiente ed efficace la ricerca di «esperti accademici» da parte di colleghi, innovatori e aziende ?

	Web	Accademia
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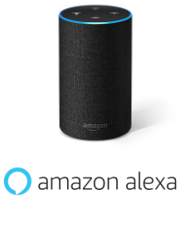
Data Mining | Query Language | Data Analysis | Data Privacy | Movement Data

Natural Language Understanding

Facile per noi umani

Difficile per le macchine

... ciò diventerà ancora più difficile nei nuovi sistemi di «Conversational AI»



Siri

Natural Language Understanding

Tradizionalmente le machine hanno rappresentato il testo tramite *l'insieme delle parole* che lo compongono

Leonardo ha dipinto la Gioconda

Natural Language Understanding

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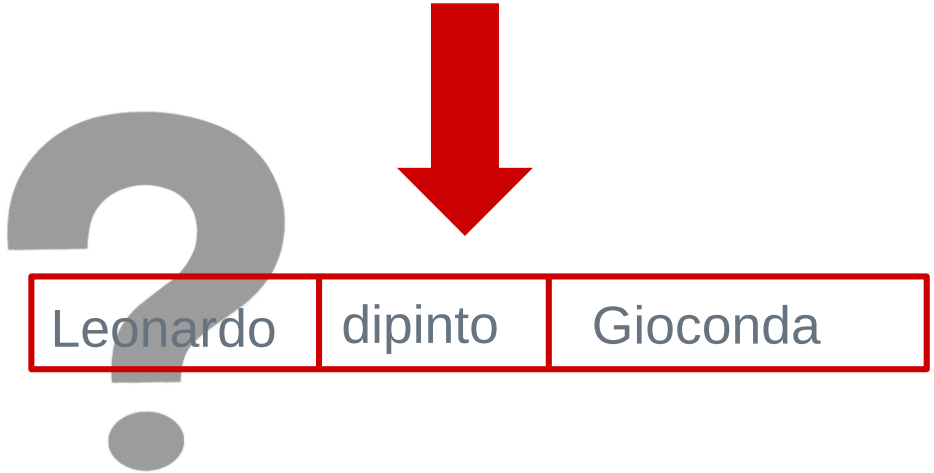


Natural Language Understanding

Tradizionalmente le machine hanno rappresentato il testo tramite *l'insieme delle parole* che lo compongono

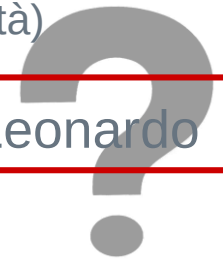
Leonardo ha dipinto la Gioconda

Leonardo DiCaprio

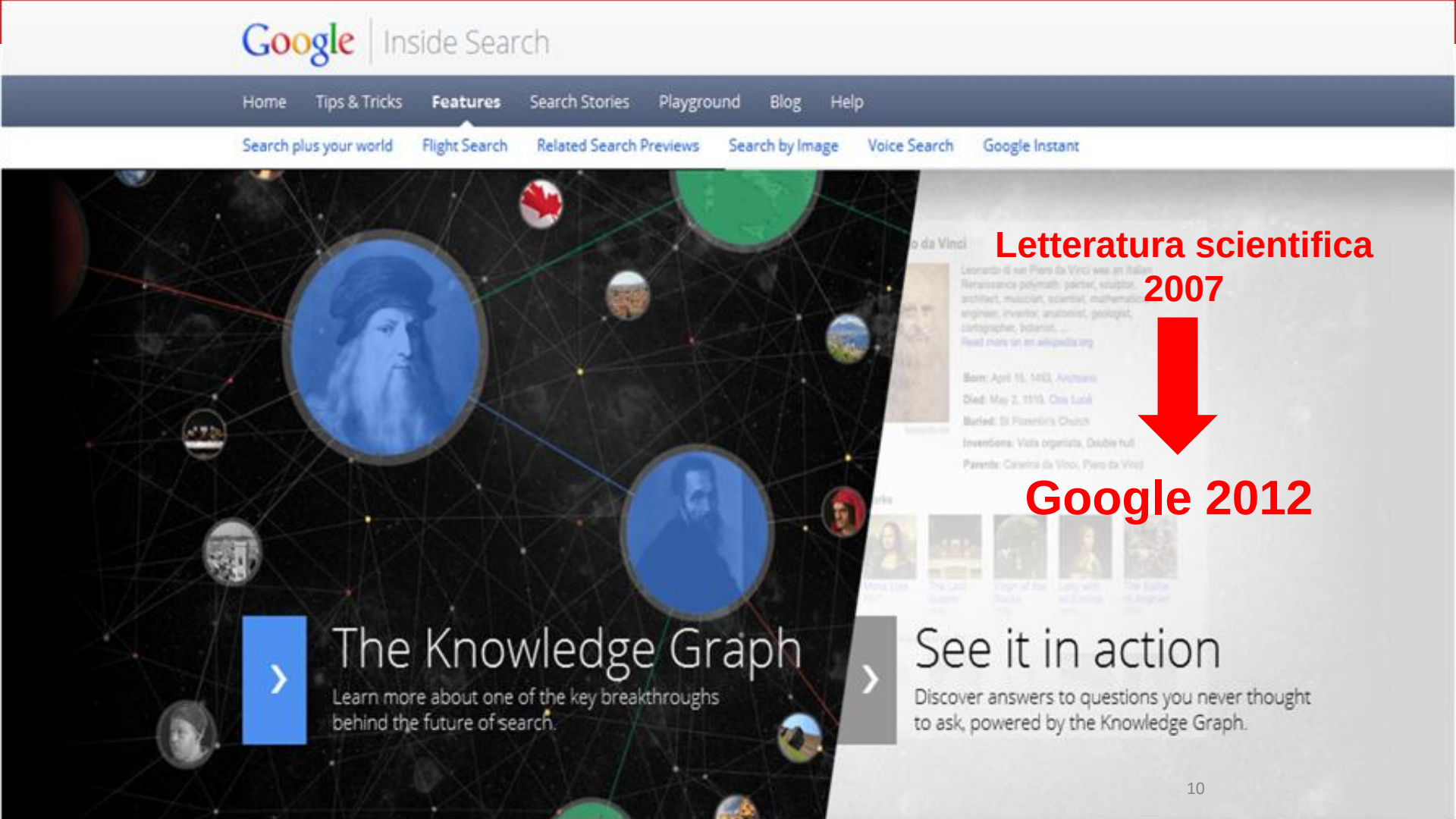
Leonardo da Vinci

Leonardo (città)

Leonardo (Tartarughe



Leonardo	dipinto	Gioconda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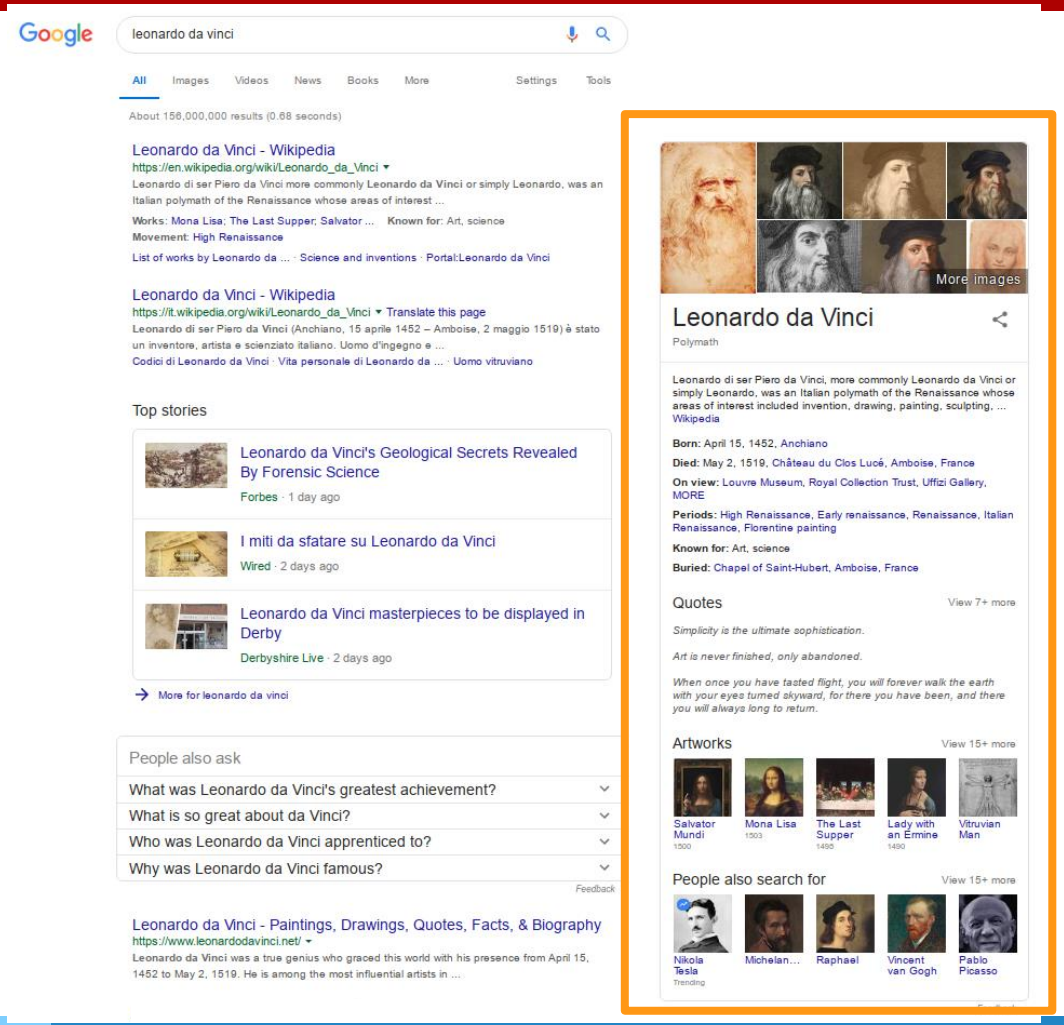

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Google Faculty Research Awards

due edizioni: 2010 & 2013

Capire il testo mediante le sue «entità»

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Documenti
=
Abstract di pubblicazioni

arpi Archivio della Ricerca Università di Pisa

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Topical clustering of search results

Full Text: PDF

see source materials below for more options

2012 Article

Authors:
Ugo Scaiella — University of Pisa, Pisa, Italy
Paolo Ferragina — University of Pisa, Pisa, Italy
Andrea Marino — University of Florence, Florence, Italy
Massimiliano Ciaramita — Google Research, Zürich, Switzerland

Bibliometrics
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Published in:

· Proceeding
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Pages 223-232

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ACM New York, NY, USA ©2012
table of contents ISBN: 978-1-4503-0747-5 doi>10.1145/2124295.2124324

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Search results clustering (SRC) is a challenging algorithmic problem that requires grouping together the results returned by one or more search engines in topically coherent clusters, and labeling the clusters with meaningful phrases describing the topics of the results included in them.

In this paper we propose to solve SRC via an innovative approach that consists of modeling the problem as the *labeled clustering* of the nodes of a newly introduced *graph of topics*. The topics are Wikipedia-pages identified by means of recently proposed topic annotators [9, 11, 16, 20] applied to the search results, and the edges denote the relatedness among these topics computed by taking into account the linkage of the Wikipedia-graph.

We tackle this problem by designing a novel algorithm that exploits the spectral properties and the labels of that graph of topics. We show the superiority of our approach with respect to academic state-of-the-art work [6] and well-known commercial systems (CLUSTY and LINGO3G) by performing an extensive set of experiments on standard datasets and user studies via Amazon Mechanical Turk. We test several standard measures for evaluating the performance of all systems and show a relative improvement of up to 20%.

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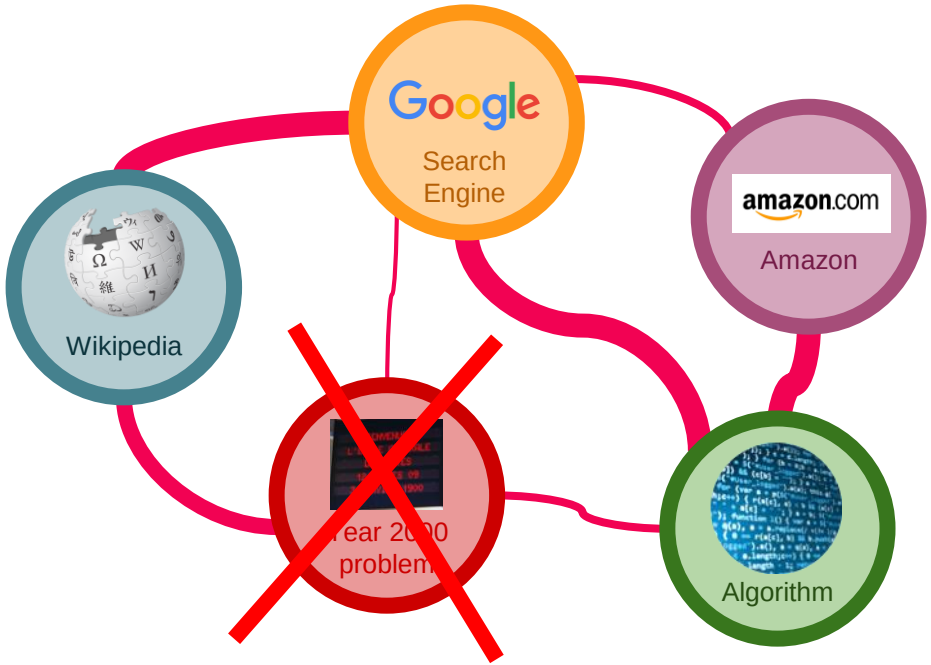

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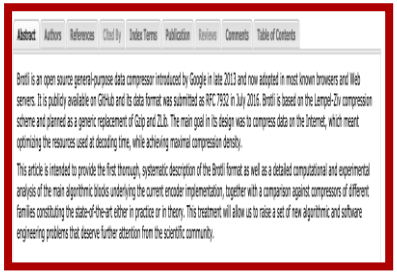
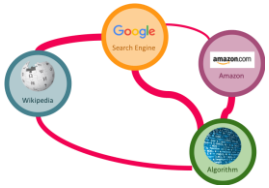
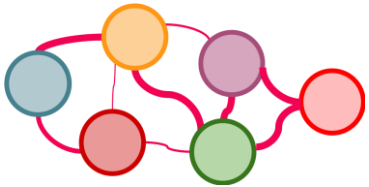
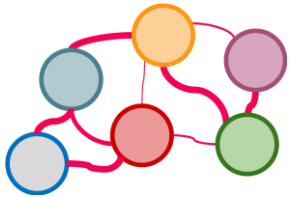
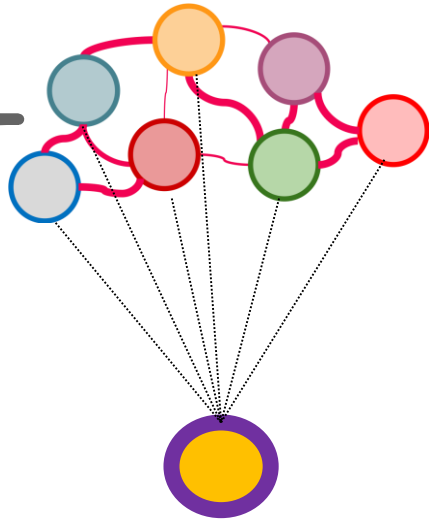








Profilo del Ricercatore



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Search by Expertise | Search by Name | Search by Department

- ~1.5K autori
- ~65K documenti
- ~35K argomenti (topic)
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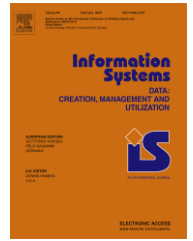

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Alessandro Lenci
Professor

DIPARTIMENTO DI FILOLOGIA, LETTERATURA E LINGUISTICA

Davide Bacciu
Researcher

DIPARTIMENTO DI INFORMATICA

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Main Topics | Main Areas | Stream Graph | Tag Cloud | Publications | Survey

Select the range of years to analyze.

1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018

Ra...	Entity	Count	Doc. count	Years	Wiser score
1	Recurrent neural network	26	15		
2	Artificial neural network	44	24		
3	Tree (data structure)	24	17		
4	Machine learning	16	14		
5	Recursive neural network	16	16		
6	Quantitative structure–activi...	30	16		
7	Echo state network	14	13		
8	Mathematical model	39	28		
9	Prediction	19	17		
10	Generative model	9	7		
11	Group representation	22	14		
12	Empiricism	15	15		
13	Data model	8	8		
14	Data set	20	14		
15	Reservoir computing	8	8		

1998 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Previous | Page 1 of 24 | 15 rows | Next

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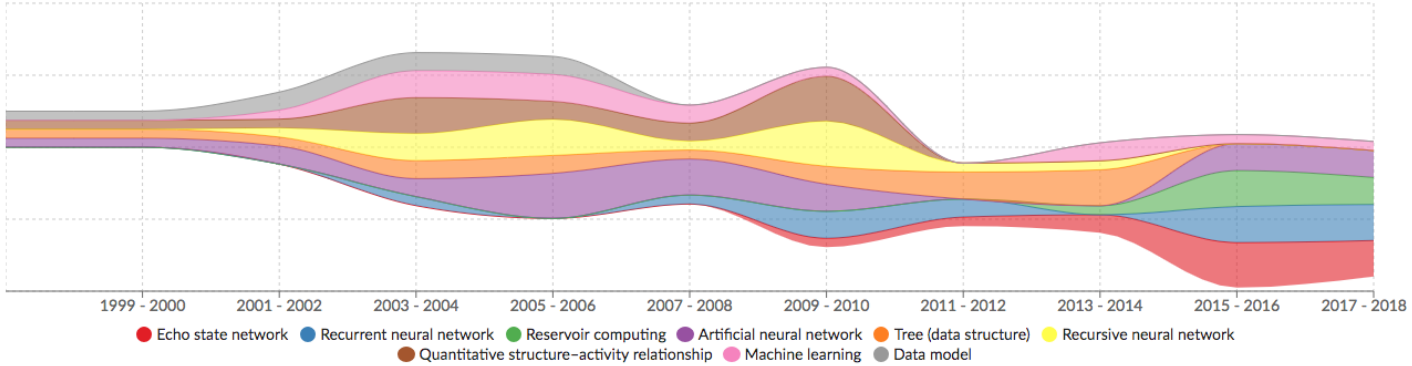
Main Topics | Main Areas | **Stream Graph** | Tag Cloud | Publications | Survey

Select range of years to examine. 6

Select how many topics for each range 4



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