



上海交通大学  
SHANGHAI JIAO TONG UNIVERSITY



# Diversify search results with facet indexing

Tian Xiaoliang





# Outline

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Acemap&Solr

MVC&Ajax

Interface Change

Future Plan

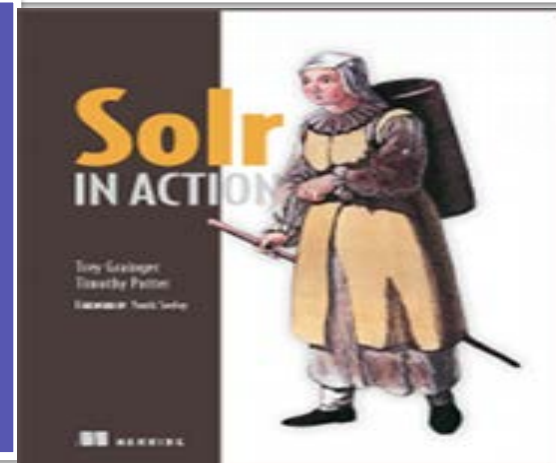


# Acemap



Acemap: Academic search & visualization system

Solr: Search platform built on Apache Lucene






# Solr

Indexing: Solr supports indexing structured content in a variety of incoming formats, such as XML, JSON, CSV, etc.



Searching: Solr can be queried via REST clients, cURL, wget, etc. Solr can perform a filter query limiting the response to particular fields.



Faceting: Faceting allows the search results to be arranged into subsets (or buckets or categories), providing a count for each subset.



## Question

- Searching with faceting needs lots of time, especially those have large number of docs returned.
- How about performing an asynchronous request?

## Method

- Searching without faceting brings fast response. After the response returned, the request for faceting begins.

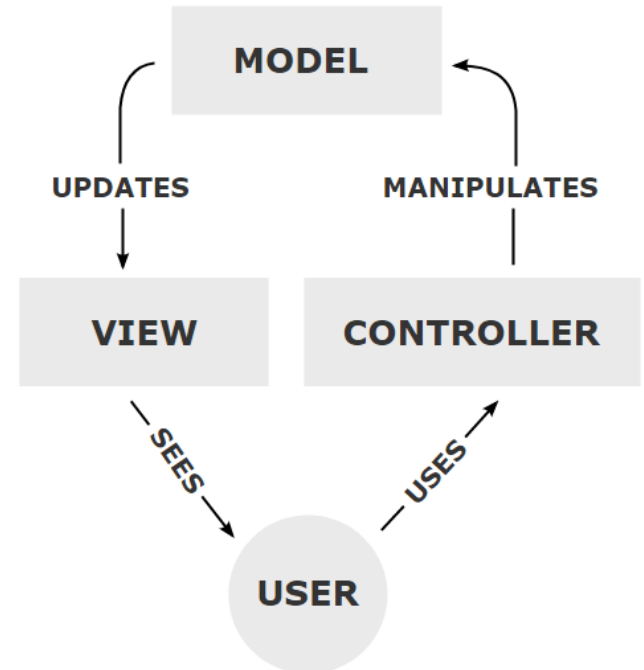
## Ajax

- Ajax (Asynchronous Javascript And XML) can be used to implement a web application that communicates with a server in bg, w/o interfering current page.



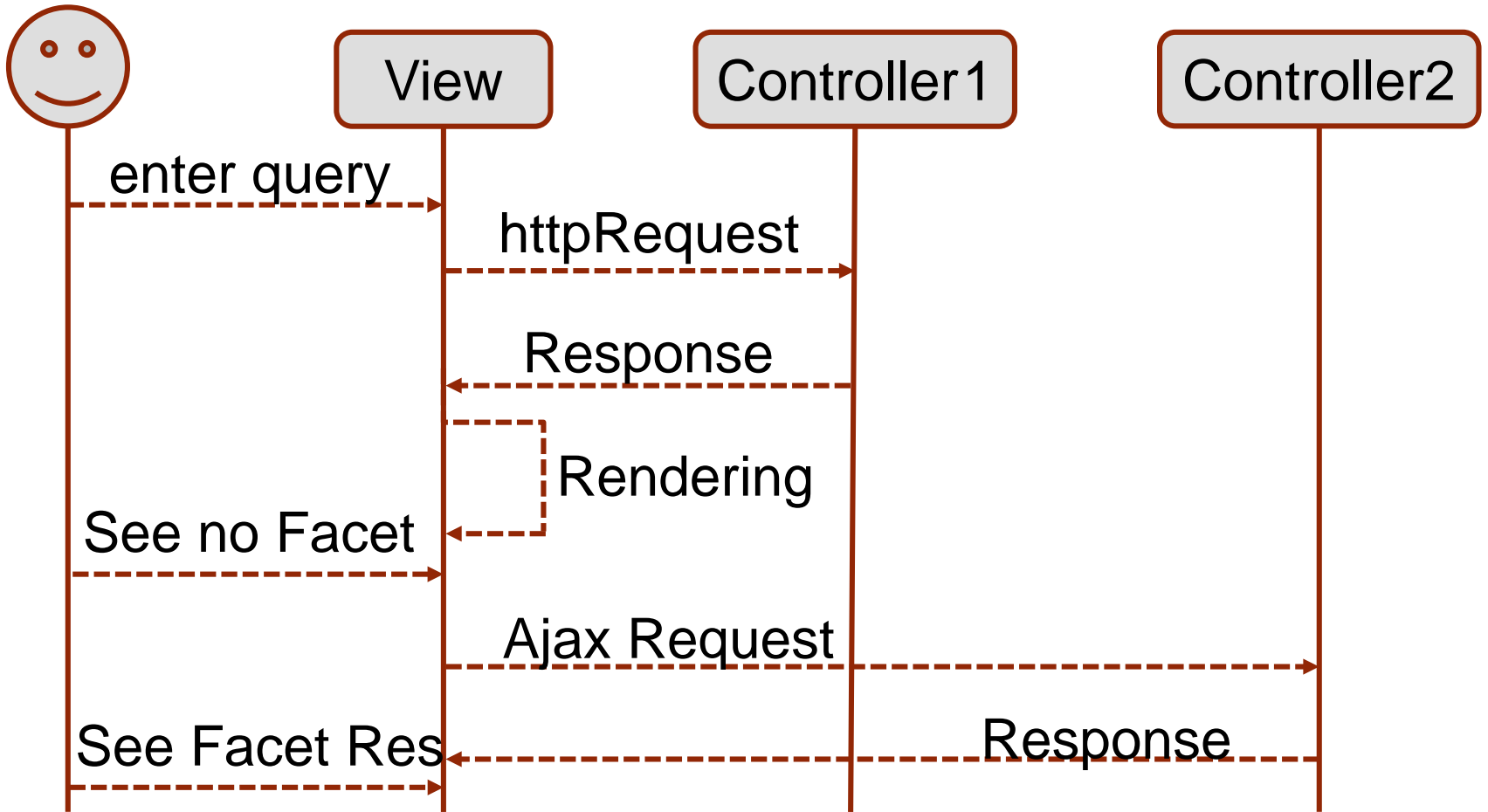
# Ajax&MVC

- A useful technique for asynchronous interaction.
- MVC design pattern:
  - controller: manipulate input
  - view: representation of info.
  - model: manage the data&logic
- To adjust output dynamically, use Ajax to handle slow tasks (faceting) after the HTML document was ready.





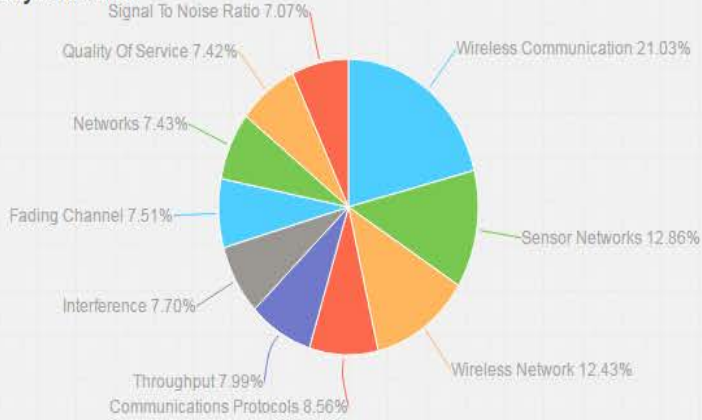
## Search result production



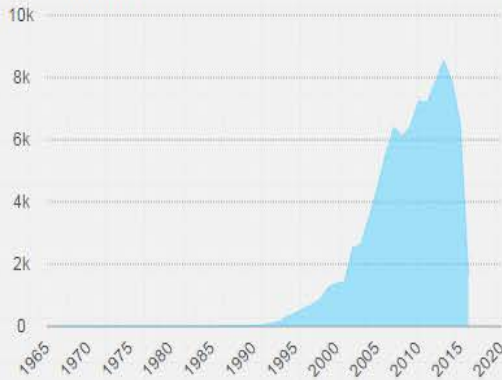


# Faceting Results

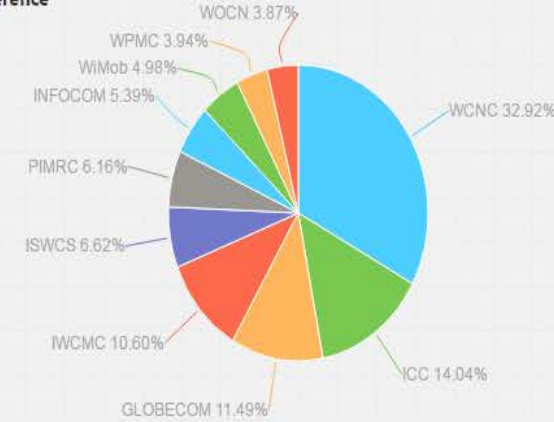
Keyword Name



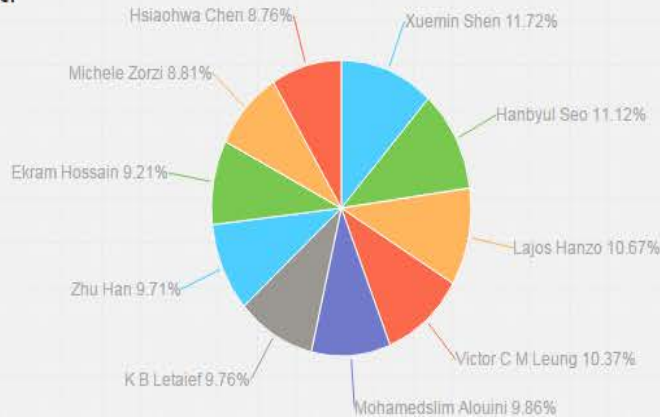
Paper Publish Year



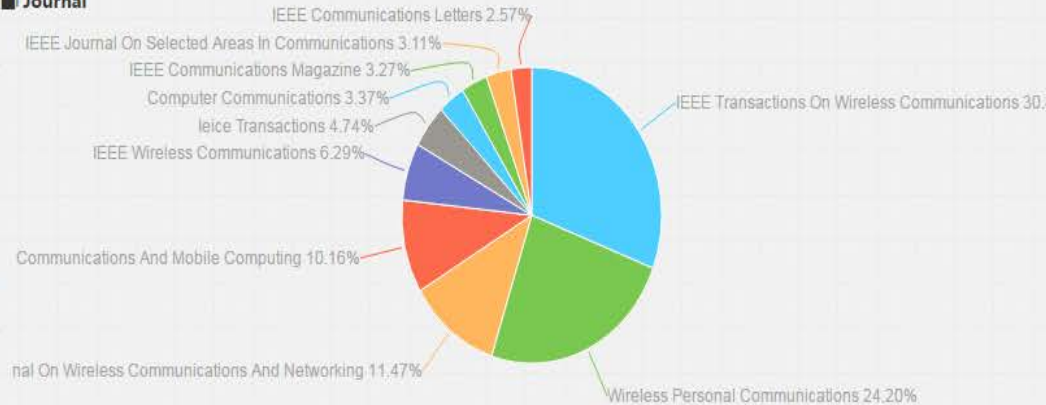
Conference



Author Related Paper



Journal







# Contributions

Partially solved the delay response due to faceting by performing an asynchronous request with Ajax.

Designed the statistical charts to display the faceting results.

Indexed important fields into Solr platform so that it can provide those facet results.



## W/o faceting

你可能想找:

作者:

Wireless Communication

作者姓名

所属机构论文

Wireless Communication: Unknow 1

Wireless Communication: Unknow 1

发现 91754 条结果 Query time: 2763ms.

### A simple transmit diversity technique for wireless communications

Siavash Alamouti

年份:1998 被引用数:4759

IEEE Journal on Selected Areas in Communications

关键词:transmitters; cellular communications; transmit diversity; base stations; block codes; indexing terms; space time code; wireless communications; bit error rate; antenna array; computational complexity; smart antenna; fading; awgn; bandwidth; rayleigh fading

### Wireless Communications: Principles and Practice

Theodore S Rappaport

年份:1996 被引用数:4564

关键词:wireless communication



# Current Interface



With faceting



Results

- Publish year
- Keyword
- Author
- Conference
- Journal

你可能想找:

作者:  
Wireless Communication

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作者姓名	所属机构	论文数
Wireless Communication	Unknow	1
Wireless Communication	Unknow	1

发现 91754 条结果 Query time: 1ms.

Currently the total number of indexed papers is 127,324,369. There are still some faults in the sequence of authors and it will be fixed soon.

**A simple transmit diversity technique for wireless communications**  
 Siavash Alamouti  
 年份:1998 被引用数:4759  
 IEEE Journal on Selected Areas in Communications  
 关键词:transmitters; cellular communications; transmit diversity; base stations; block codes; indexing terms; space time code; wireless communications; bit error rate; antenna array; computational complexity; smart antenna; fading; awgn; bandwidth; rayleigh fading

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**Wireless Communications: Principles and Practice**  
 Theodore S Rappaport  
 年份:1996 被引用数:4564  
 关键词:wireless communication

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**Cognitive radio: brain-empowered wireless communications**  
 Simon Haykin  
 年份:2005 被引用数:3480  
 IEEE Journal on Selected Areas in Communications  
 关键词:spectrum; natural resource; wireless communication; cognitive radio; prediction model; learning artificial intelligence; power control; emergent behavior; software defined radio; intelligent systems; predictive modeling; interference; temperature control; radio control; electromagnetic spectrum; machine learning

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**On Limits of Wireless Communications in a Fading Environment when Using Multiple Antennas**  
 G J Foschini; Michael J Gans  
 年份:1998 被引用数:3436

**Paper Publish Year**

**Keyword Name**



## With faceting

### On Limits of Wireless Communications in a Fading Environment when Using Multiple Antennas

G J Foschini; Michael J Gans

年份:1998 被引用数:3436

Wireless Personal Communications

关键词:wireless communication; rayleigh fading; array; capacity; information theory

### An application-specific protocol architecture for wireless microsensor networks

Wendi B Heinzelman; Anantha P Chandrakasan; Hari Balakrishnan

年份:2002 被引用数:2688

IEEE Transactions on Wireless Communications

关键词:energy efficient; latency; intelligent networks; remote monitoring; data aggregation; adaptive systems; wireless communication; low energy adaptive clustering hierarchy; low latency; routing protocols; self organization; wireless application protocol; network performance; robustness; distributed processing

### Space-time codes for high data rate wireless communication: performance criterion and code

Vahid Tarokh; Nambi Seshadri; A R Calderbank

年份:1998 被引用数:2598

IEEE Transactions on Information Theory

关键词:phase shift keying; computational complexity; convolutional codes; frequency; channel capacity; wireless communication; decoding; channel coding; matrices; diversity gain; fading; linear superposition; coding gain

### Energy-efficient communication protocol for wireless microsensor networks

Wendi Rabiner Heinzelman; Anantha P Chandrakasan; Hari Balakrishnan

年份:2000 被引用数:2580

Hawaii International Conference on System Sciences

关键词:energy dissipation; protocols; sensor network; col; data fusion; energy efficient; routing protocol; base station; wireless communication; wireless application protocol; spread spectrum communication; scalability; robustness; low energy adaptive clustering hierarchy

### Fundamentals of wireless communication

David Tse; Pramod Viswanath

年份:2005 被引用数:1853

关键词:networks; hardware

### Layered space-time architecture for wireless communication in a fading environment when using multi

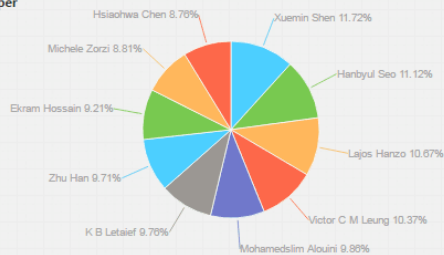
G J Foschini

年份:1996 被引用数:1754

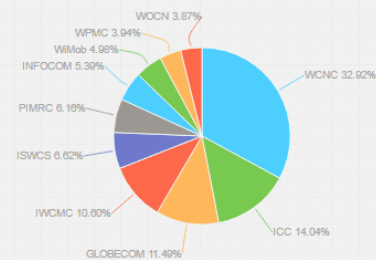
Bell Labs Technical Journal

关键词:antenna array; rayleigh fading; wireless communication; digital transmission; codec; system

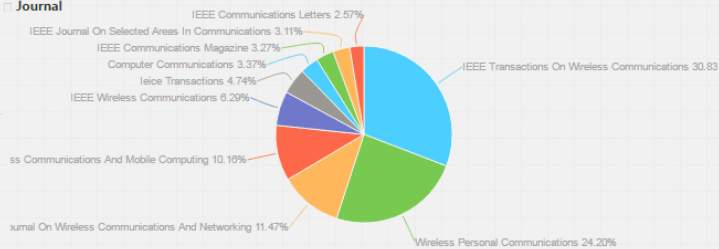
#### Author Related Paper



#### Conference



#### Journal





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# Thanks!

