

Make Pages Practical

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Introduction

Our scholar search website Acemap has been built for nearly 2 years and many students make a great contribution to it. However, it still has many defects which make it not easy to use.

In this terms, we have focused on many effective improvements on the Acemap pages to make it easier to use in different aspects and it really make sense.

Here I will concentrate on five necessary improvements.

- Web Security
- New User page
- Evaluation Index
- Comments and Scoring System
- Information Visualization

Web Security

It is frequent to query on the Acemap and it is crucial to prevent SQL injection attack, which inserts nefarious SQL statements into an entry field for attack.

We can understand how it works by a simple example.

For a normal query, it has such a process:

- Accept a variable from user such as **`$variety = $_POST['variety']`**
- Insert the variable into a SQL statement: **`$query = "SELECT * FROM Authors WHERE AuthorName = '$variety'"`**
- Submit the query and return the result

It is a normal query, transmitting the variable to the statement to get the result. But when we use such a variable **`Xinbing Wang' or 1='1`** and you can get such a statement **`SELECT * FROM Authors WHERE variety='Xinbing Wang' or 1= '1'`**. This part is always true.

If this is *DELETE*, *UPDATE* instead of *SELECT*, there will be a disaster for our database.

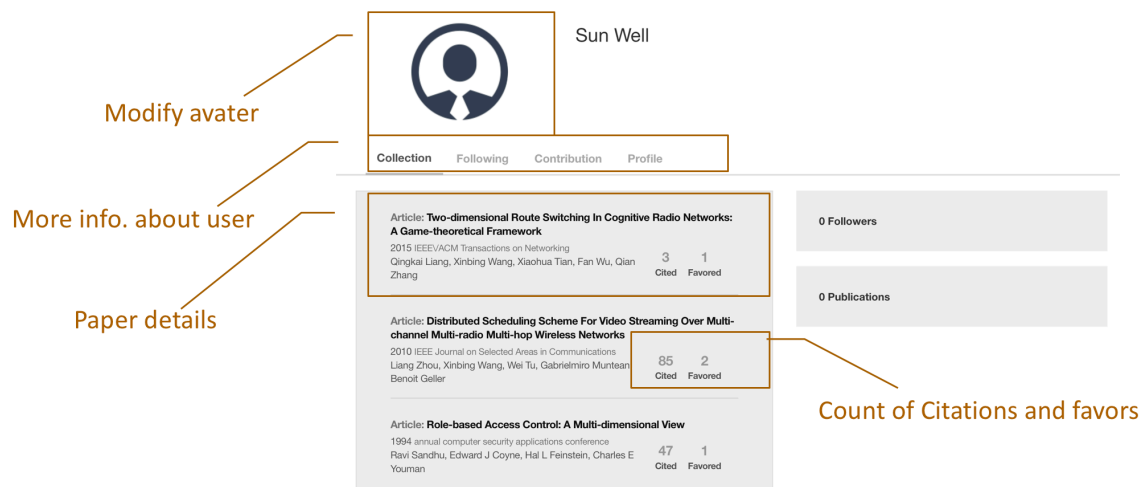
We tried a web application to attack the author page and get such information. Our injection point is <http://acemap.sjtu.edu.cn/author/page?AuthorID=8191A61F> and at last we can get some user names and password.

We have taken some actions to prevent the potential risk of SQL Injection Attack by filtering the query. We can filter the query especially single quote. Maybe we have not considered all conditions so we still need to eliminate more security vulnerability to improve the security of Acemap in the future work. We need to eliminate more security vulnerability to improve the security of Acemap in the future work as well.

New User page

We have implemented a new user page with a different style as a trial.

The user page before is too simple and not elegant. So we decide to use a new style to rebuild the user page and manage to show more information of user in a good layout.



User page is a crux for a scholar community. It should contain appropriate elements of a user which represent his/her characteristics and habits in our scholar community. Many details need to be improved in the next step and we are going to apply the style of user page to other pages.

Evaluation Index

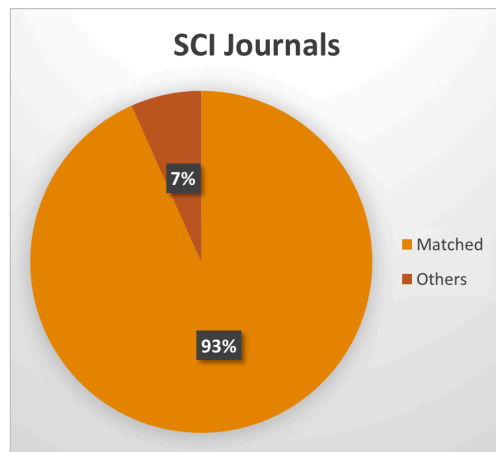
Now we have implemented three different evaluation indexes on Acemap for each author and paper.

Science Citation Index(SCI)

The Science Citation Index (SCI) is a citation index originally produced by the Institute for Scientific Information (ISI) and created by Eugene Garfield, including the world's leading journals of science and technology, because of a rigorous selection process.

It prefers natural science and creative work and covers 3746 journals this year.

In our database 93% of SCI journals can be matched and we can quickly do some statistics work and figure the index.



El Compendex

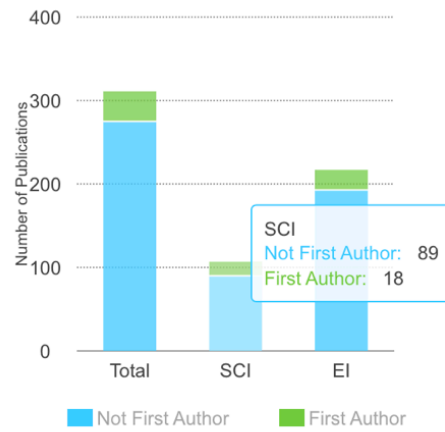
El Compendex is another important citation index in the world, Which indexes scientific literature pertaining to engineering materials.

It Covering 4895 sources (16/04/25)including journals, conferences and trade publications which can only be matched less than 60% in our database.

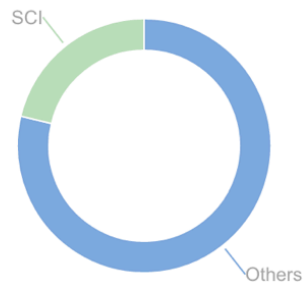
We calculate the data online with optimized SQL statement and database structure. With the help of JavaScript, we can

view data dynamically. However, El may be not precise and we are trying to get more precise data by crawling the website.

📄 Publication

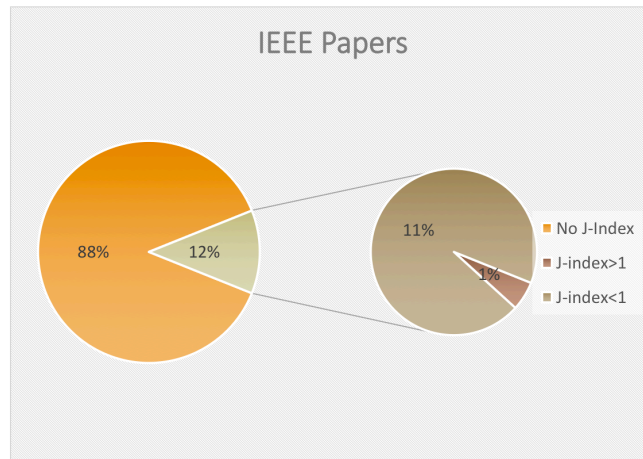


📄 Citation



J-Index

J-index is our unique evaluation index invented by Jiaming Shen and has been implemented by 2016 INFOCOM. However, it is not suitable to use J-index to quantify each paper because of Long Tail Effect. The value is quite unbalanced and not easy to understand directly and the distribution is very disproportionate.



so we do some transformation that using rank percent in all the IEEE papers which have J-Index more than 0. It is better to use J-Index to rank when recommending papers or sum up for each author. Here are some examples:

Citations: 727
SCI Citations: 178
EI: YES
J-Index: 9.79745388621
Rank: 276
RankPercent: 1% (Rank in all the IEEE papers which have J-Index more than 0)

Citations: 1
SCI Citations: 0
EI: YES
J-Index: 0

Citations: 1143
SCI Citations: 393
EI: YES
J-Index: 0.000163812864
RankPercent: 80% (Rank in all the IEEE papers which have J-Index more than 0)

Comment and scoring system

We have built our comment and scoring system. You can write comments and score the paper now!

They are necessary components for a research community and we can collect feedback used for recommendation. We can read the comments and get the scores just like a movie website.

With more and more users joining in our website, it will be a good community to communicate with each other.

Data Mining: Concepts And Techniques

INFO ABSTRACT KEYWORD REFERENCES CITES SIMILAR

Basic information

Authors: Jiawei Han, Micheline Kamber, Jian Pei
 Year: 2005
 it is not in EI

5.0
 1 commented
 5 ☆ 100.0 %
 4 ☆ 0.0 %
 3 ☆ 0.0 %
 2 ☆ 0.0 %
 1 ☆ 0.0 %

0 Comments acemap Well Sun

Recommend Share Sort by Best

Inspiring a lot.

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Cognitive Radio Making Software Radios More Personal
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- Ming Zhang
- S Tao
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- Xueqing Wang
- Yawei Yin
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- Jilin Qi
- Yiqiu Wang
- Xueqing Wang

Related Fields

- Data Mining
- Data Model
- World Wide Web
- Social Network
- Relational Database

Information Visualization

Information Visualization is very useful for a website to make the content more various. We should implement it in every details. It makes the pages nicer and easier to understand.

A Computational Approach To Edge Detection

INFO ABSTRACT KEYWORD REFERENCES CITES SIMILAR

Keywords

Signal To Noise Ratio Detectors Machine Vision
 Uncertainty Noise Data Mining Image Processing
 Shape Feature Extraction Edge Detection

3.5

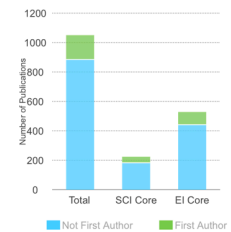
2 commented
 5 ☆ 0.0 %
 4 ☆ 50.0 %
 3 ☆ 50.0 %
 2 ☆ 0.0 %
 1 ☆ 0.0 %



Jiawei Han



Publication



Citation



Conclusion

We have improved websites in many aspects to be more practical. However, we still need to optimize the system in many aspects.

- Speed up the response time
- Unify style of different pages
- Complete every function in details
- Add component to record users' trails in Acemap

There is still a long way to go for the whole system. It is a very huge project and we should make every detail perfect.