Lab 3 Web Development
EE 101

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1 Data Processing

The aim of our project *PaperHub* is to show the visitors the data about the papers, authors, affiliations and other academic units, so as the basis of the project, we need to do some data processing first. First we want to score the authors according to the citations of his or her papers, and his or her rank of authors in the papers. The maximum number of authers is 57 in the data provided by the teaching assistant of EE101, so we design a function to weight the academic achievement of the author. Then we calculate the score of each author and affiliation, and write it into two new tables in our MySQL database.
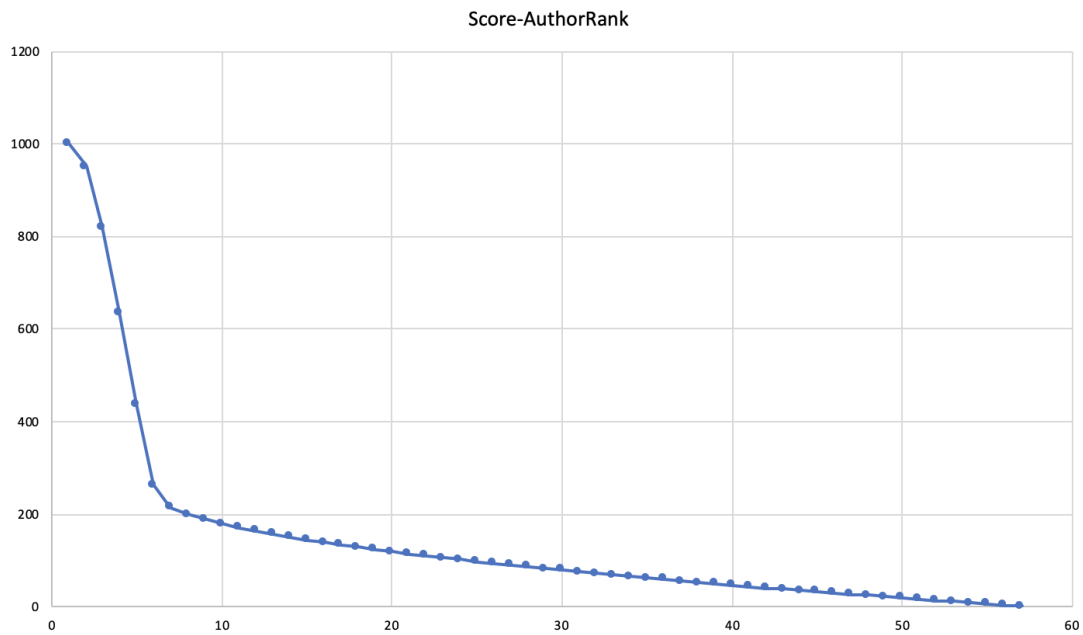

Figure 1: The score range from 2 to 1000

2   Website Deployment

First we buy a domain and an ECS Server from Aliyun and install Ubuntu 18.04. Then we use apt command to install python, MySQL, Nginx, PHP and other essential software. After uploading our website to the server through SFTP, we add a server into the configuration of Nginx to let it listen port 80 on the domain acemap.lifanz.cn. To make our website legal, we registered it to MIIT and the public security department, to get an ICP registration number and a public security registration number. Finally, we use certbot the enable SSL connection throught port 443.

```
server {

        server_name acemap.lifanz.cn;

        location / {
                root /root/acemap;
                index index.html index.htm index.php;
                try_files $uri $uri/ =404;
        }
        location ~ \.php$ {
 #              include snippets/fastcgi-php.conf;
                try_files       $uri = 404;
                root    /root/acemap;
                fastcgi_pass 127.0.0.1:9001;
#               fastcgi_pass unix:/run/php/php7.2-fpm.sock;
                fastcgi_index index.php;
                fastcgi_param  SCRIPT_FILENAME $document_root$fastcgi_script_name$fastcgi_script_name;
                include fastcgi_params;
        }

    listen 443 ssl; # managed by Certbot
    ssl_certificate /etc/letsencrypt/live/lifanz.cn/fullchain.pem; # managed by Certbot
    ssl_certificate_key /etc/letsencrypt/live/lifanz.cn/privkey.pem; # managed by Certbot
    include /etc/letsencrypt/options-ssl-nginx.conf; # managed by Certbot
    ssl_dhparam /etc/letsencrypt/ssl-dhparams.pem; # managed by Certbot

}


server {
    if ($host = acemap.lifanz.cn) {
        return 301 https://$host$request_uri;
    } # managed by Certbot


        server_name acemap.lifanz.cn;

        listen 80;
    return 404; # managed by Certbot

}
```

Figure 2: The configuration of Nginx

3   Homepage

In the homepage, we want to realize two functions. The first one is a general searching input box. In the box, the user can search everything he want, and the webpage will guess what the user want to search and give the user some hints in a dropdown list. The second one is an advanced search form, where the user can specify the type of data he want to get. We use bootstrap and a

model(https://github.com/BlackrockDigital/startbootstrap) to beautify the homepage.

To realize realtime search suggestion, we built a new solr core, which includes the papers of lots of citations and is much smaller than the former one, because if we use the former core, it will take too much time to search. And we need to make a search operation when the user press a key on the keyboard, if it is too slow, the experience of the user will be stuck. The solr core returns a json array to the homepage, and the homepage will show it in a droplist.
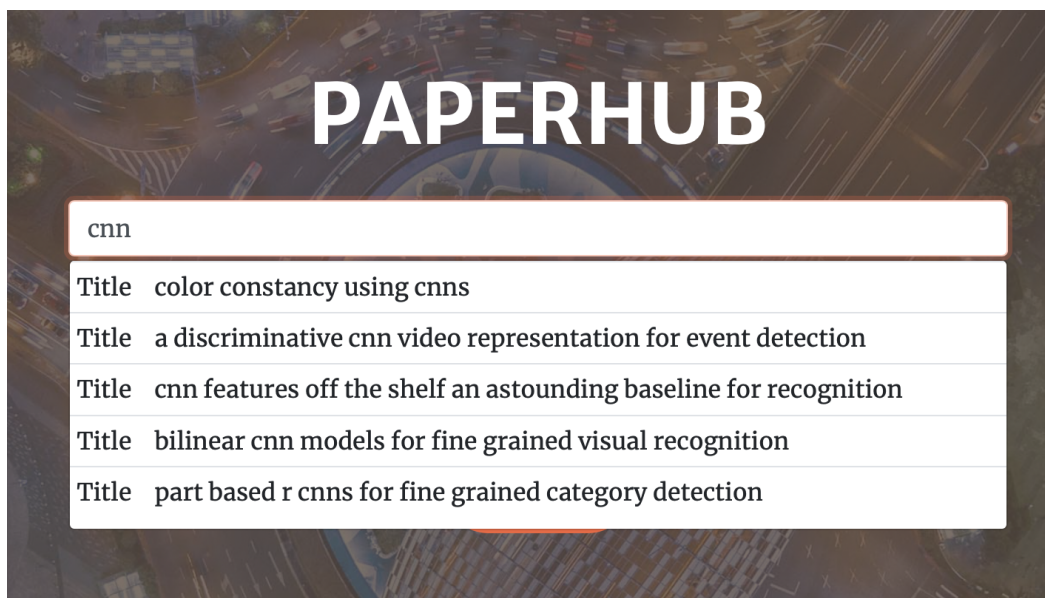

Figure 3: The search suggestion droplist