

Big Data 大數據理論及實務應用

Created by 孫善堂 【小孫學堂】



大數據代蟲工具 BeautifulSoup

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What is the **BeautifulSoup**?

- 1.網頁爬蟲工具庫
- 2.自動轉換為utf-8編碼

```
from bs4 import BeautifulSoup
 html = """
 <html><head><title>The Dormouse's story</title></head>
 <body>
 <b>The Dormouse's story</b>
 Once upon a time there were three little sisters; and their names were
 <a href="http://example.com/elsie" class="sister" id="link1"><!-- Elsie --></a>,
 <a href="http://example.com/lacie" class="sister" id="link2">Lacie</a> and
 <a href="http://example.com/tillie" class="sister" id="link3">Tillie</a>;
 and they lived at the bottom of a well.
 ...
 soup = BeautifulSoup(html)
```

標籤(tag)搜尋功能

```
print(soup.head)
```

<head><title>The Dormouse's story</title></head>

```
print(soup.body)

<body>
class="title" name="dromouse"><b>The Dormouse's story</b>
cp class="story">Once upon a time there were three little sisters; and their names were
<a class="sister" href="http://example.com/elsie" id="link1"><!-- Elsie --></a>,
<a class="sister" href="http://example.com/lacie" id="link2">Lacie</a> and
<a class="sister" href="http://example.com/tillie" id="link3">Tillie</a>;
and they lived at the bottom of a well.
cp class="story">...</body>
```

```
print(soup.a)
```

<!-- Elsie -->

標籤(tag)組成

name

attrs

print(soup.a)

class="sister" href="http://example.com/elsie" id="link1"><!-- Elsie -->

標籤(tag)組成

```
print(soup.p.name)
print(soup.p.attrs)
{'class': ['title'], 'name': 'dromouse'}
```

個別屬性(attrs)

print(soup.p['name'])

dromouse

html階層顯示

bs物件.prettify()

```
print(soup.p.prettify())
<b>
 The Dormouse's story
</b>
```

html階層顯示

bs物件.prettify()

```
print(soup.p.prettify())
<b>
 The Dormouse's story
</b>
```

標籤(tag)字串顯示

bs物件.string

print(soup.p.string)

The Dormouse's story

Css選擇器

bs物件.select('目標')

標籤名不加修飾

回傳list

```
print(soup.select('a'))
```

[<a class="sister" href="http://example.com/elsie" id="link
1"><!-- Elsie -->, <a class="sister" href="http://exampl
e.com/lacie" id="link2">Lacie, <a class="sister" href="ht
tp://example.com/tillie" id="link3">Tillie]

CSS選擇器

bs物件.select('目標')

屬性名加.

回傳list

```
print(soup.select('.title'))
```

[The Dormouse's story]



大數據實務演練 自動爬圖程式

Created by 孫善堂 【小孫學堂】

First of all, We need...

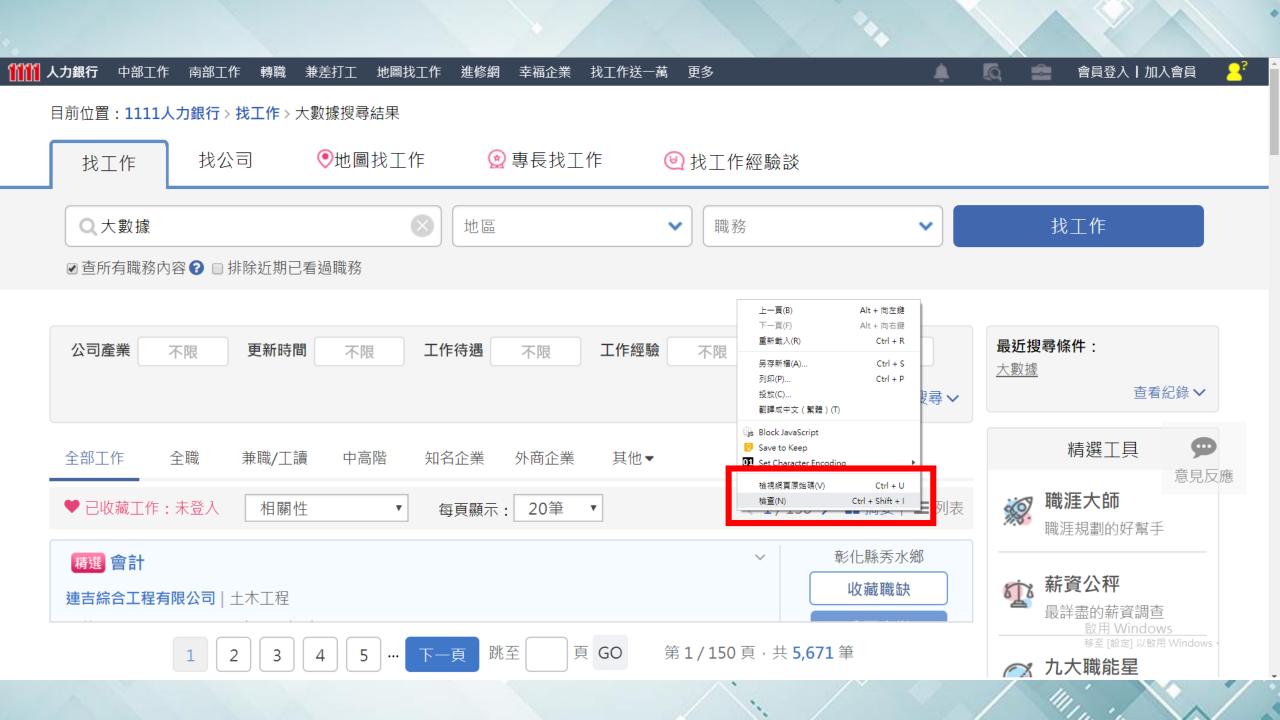
- 1. Anaconda Jupyter Notebook
- 2.BeautifulSoup · requests
- 3.Chrome檢查、InfoLite
- 4. https://www.1111.com.tw/



• 我的天賦職業

• 海外工作 (5510)

幸福企業



F5重新整理

會員登入 | 加入會員

大數據 修改

(共 5,670 筆)

精選 會計

連吉綜合工程有限公司

彰化縣秀水鄉 | 月薪 25,000~30,000元

1.審查公司財務收支文件及憑證 2.定期記錄並核對公司總分類帳 3.定期編製公司帳務報表,及其他財務分析資料等 4.盤點公司存貨、計算員工佣金、貨款折讓及利息等 5.依年度或一定期間準備財務說明及帳目,計算安...

資料分析師 (Clinical Data Analyst)

晉加股份有限公司

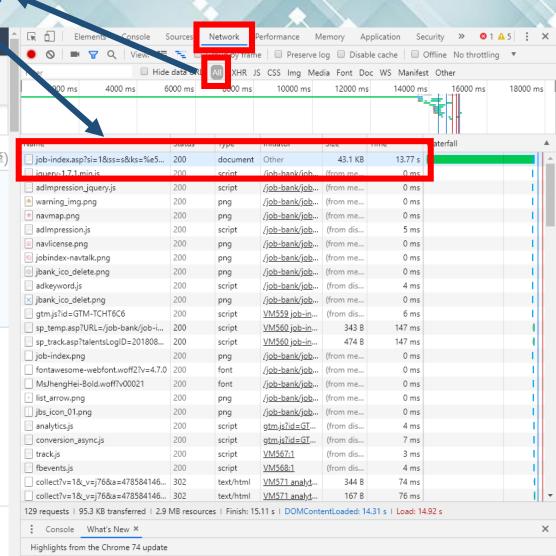
台北市信義區 | 月薪 36,000~50,000元

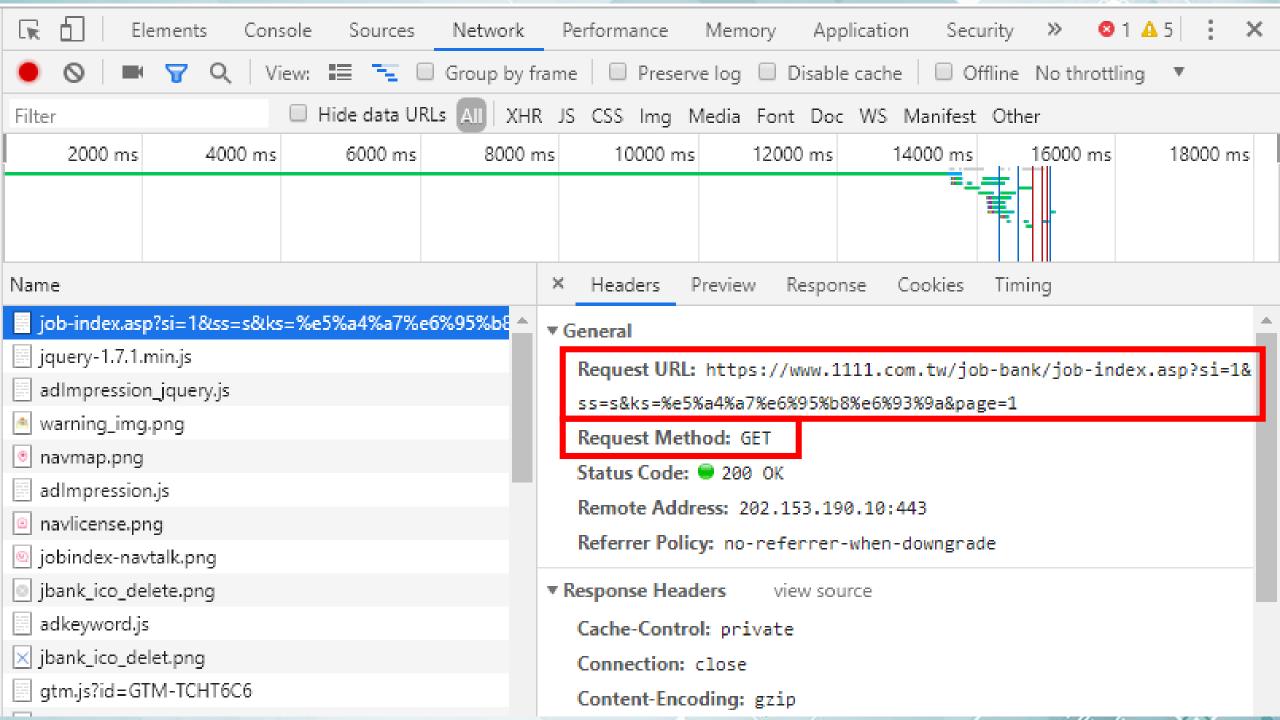
資料處理,統計分析,專案管理

要求條件 ● 數理統計學類,公共衛生學類 相關科系

更新時間: 2019-06-10

資料分析師





```
import requests
In [1]:
        from bs4 import BeautifulSoup
        res = requests.get('https://www.1111.com.tw/job-bank/job-index.asp?si=1&ss=s&ks=%e5%a4%a7%e6%95%b8%e6%93%9a&page=1')
        soup = BeautifulSoup(res.text)
        print(soup)
<!DOCTYPE html>
<html>
<head>
<meta content="text/html; charset=utf-8" http-equiv="Content-Type"/>
<title>大數據工作職缺/工作機會列表(第1頁/20筆) | 找工作就上1111人力銀行</title>
<meta charset="utf-8"/>
<meta content="width=device-width, initial-scale=1.0, user-scalable=no, minimum-scale=1.0, maximum-scale=1.0" name="viewport"/</pre>
<meta content="zh-tw" http-equiv="Content-Language"/>
<meta content="index,follow" name="robots"/>
<meta content="大數據工作職缺/工作機會列表(第1頁/20筆) | 找工作就上1111人力銀行" name="title"/>
<meta content="大數據,工作,職缺" name="keywords"/>
<meta content="【大數據工作職缺/工作機會列表】資料分析師 (Clinical Data Analyst)、台北總公司 全職 資料分析師Data Analyst、資料分析人
```

員、J03_資料分析師、I3901 Big Data Sr. Analyst/大數據資深分析師(Familiar with SQL and Trinity)、RS180621-資料分析顧問、資料分析師 (金融)-B10C、個金_資料分析人員、【台北內湖】網路文字資料探勘分析(Text Mining/Data Crawler)演算法工程師。1111人力銀行網羅眾多知名企業職缺,可依照您想要的工作地區、工作職務、工作產業,推薦您精準適合的職缺。想找更多的相關職缺,就快上1111人力銀行搜尋。" name="description"/>



```
Elements Console Sources Network Performance Memory Application >>>
<aside id="jobSide" style>...</aside>
▶ <article id="jobConditions">...</article>
<link href="/includesU/reset.css" rel="stylesheet" type="text/css">
 <link href="/includesU/font-awesome.min.css" rel="stylesheet" type="text/css">
 <link href="/includesU/job-index-search.css?v=201905211208" rel="stylesheet" type="text/</pre>
 css">
▼<article id="jbList">
 ▶ ...
 ▶ <div class="jbSelectBarWrap">...</div>
 ▶ ...
 ▼<div id="jobResult">
  ▼
   <1i class="thisli36006410_53590485 digest " style="b ckground: rgb(255, 255, 255);</p>
   opacity: 0.8;">...
   <script type="application/ld+json">...</script>
   <1i class="thisli51563478_85911647 digest " style="beckground: rgb(255, 255, 255);</p>
   opacity: 0.8;">...
   <script type="application/ld+json">...</script> == $0
   ▶...
   <script type="application/ld+json">...</script>
   ▶...
   ▶...
   ▶ ...
   ▶...
   ▶...
   class="thisli1853011_85035916 digest ">...
   ▶...
   ▶ <div id="jobadshow">...</div>
   ▶ ...
   class="thisli9782079_85242192 digest ">...
   class="thisli8945462_85972449 digest ">...
   class="thisli69425001_85970100 digest ">...
   ▶...
   ▶ ...
   ▶...
   ▶...
   class="thisli1345703_85865859 digest ">...
   ▶...
   ▶ <div class="paginationLine">...</div>
```

In [5]: import requests from bs4 import BeautifulSoup res = requests.get('https://www.1111.com.tw/job-bank/job-index.asp?si=1&ss=s&ks=%e5%a4%a7%e6%95%b8%e6%93%9a&page=1') soup = BeautifulSoup(res.text) print(soup.select('.halfbox')[0].select('li'))

[</div class="displayTable"><div class="jbInfo"><i aria-hidden="true" class="fa fa-angle-down"></i>2306" href="javascript:void(0);">此次搜尋不想看到這間公司</div></div class="jbInfoin"><h3>會計<</h3><h4><a="//www.1111.com.tw/corp/2192306/?agent=sticktop_2192306&ks=大數據" itemprop="url" target="_blank" title="《公司名和合工程有限公司

《行業類別》土木工程

```
In [10]: import requests
         from bs4 import BeautifulSoup
         res = requests.get('https://www.1111.com.tw/job-bank/job-index.asp?si=1&ss=s&ks=%e5%a4%a7%e6%95%b8%e6%93%9a&page=1')
         soup = BeautifulSoup(res.text)
         for a in soup.select('.halfbox')[0].select('li'):
             if str(type(a.a))!= "<class 'NoneType'>":
                 print(a.a)
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/79122534/?agent=sticktop 2192306 79122534&amp;ks=大數據" target=" blank" tit</pre>
         le="會計"></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/53590485/?ks=大數據" target="_blank" title="資料分析師 (Clinical Data Analys
         t)"></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/85911647/?ks=大數據" target=" blank" title="資料分析師"></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/79937096/?ks=大數據" target=" blank" title="資料分析師"></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/85230706/?ks=大數據" target=" blank" title="台北總公司 全職 資料分析師Data Ana</pre>
         lvst"></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/79584681/?ks=大數據" target=" blank" title="資料分析人員"></a></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/76720857/?ks=大數據" target="_blank" title="資料分析人員"></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/85869740/?ks=大數據" target=" blank" title="J03 資料分析師"></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/85916778/?ks=大數據" target="_blank" title="I3901 Big Data Sr. Analyst&amp;x</pre>
         2F:大數據資深分析師(Familiar with SOL and Trinity)"></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/85035916/?ks=大數據" target=" blank" title="RS180621資料分析顧問"></a></a>
         <a class="mobiFullLInk" href="//www.1111.com.tw/job/85869895/?ks=大數據" target="_blank" title="資料分析師(金融)B10C">< Paper</pre>
         Ka class="mobiFullLInk" href="//www.1111.com.tw/iob/85242192/?ks=大數據" target=" blank" title="個金 資料分析人員"></a>
```

```
In [12]:
         import requests
         from bs4 import BeautifulSoup
         res = requests.get('https://www.1111.com.tw/job-bank/job-index.asp?si=1&ss=
         soup = BeautifulSoup(res.text)
         for a in soup.select('.halfbox')[0].select('li'):
             if str(type(a.a))!= "<class 'NoneType'>":
                 print(a.a['href'])
         //www.1111.com.tw/job/79122534/?agent=sticktop_2192306_79122534&ks=大數據
         //www.1111.com.tw/job/53590485/?ks=大數據
         //www.1111.com.tw/job/85911647/?ks=大數據
         //www.1111.com.tw/job/79937096/?ks=大數據
         //www.1111.com.tw/job/85230706/?ks=大數據
         //www.1111.com.tw/job/79584681/?ks=大數據
         //www.1111.com.tw/job/85869740/?ks=大數據
         //www.1111.com.tw/job/76720857/?ks=大數據
         //www.1111.com.tw/job/85916778/?ks=大數據
         //www.1111.com.tw/job/85035916/?ks=大數據
         //www.1111.com.tw/job/85869895/?ks=大數據
         //www.1111.com.tw/job/85242192/?ks=大數據
```



更新日期: 2019/5/31?

工作內容

【職務內容】

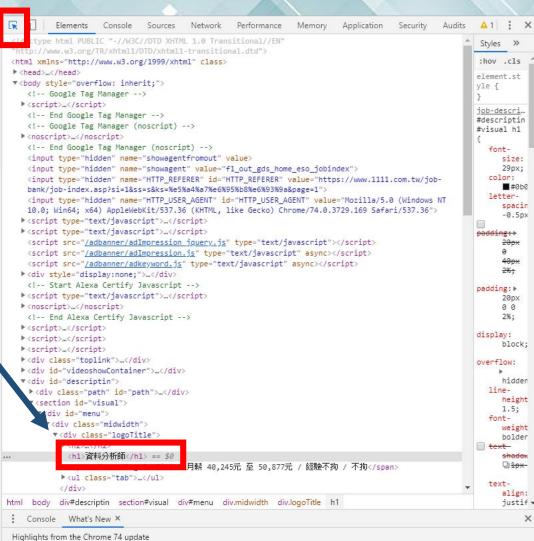
負責本計畫「臺灣農村社會文化調查計畫-分項計畫三:農村調查資料數位化整合與呈現計畫」開放資料專案規劃與執行,職務細項如下:

- 1. 資料清理不同結構化程度資料。
- 2. 各類資料格式混搭 (如:xml, csv, json...)。
- 3. 介接資料服務。
- 4. 整合內外部資料/資料集並資料分析。
- 5. 專案規劃與管理。
- 6. 執行主管交辦事項。
- 計畫官網 -

臺灣農村社會文化調查計畫:http://scsrt.programs.sinica.edu.tw/goal.js p

工作適配度





```
In [16]:
         import requests
         from bs4 import BeautifulSoup
         res = requests.get('https://www.1111.com.tw/job-bank/job-index.asp?si=1&ss=s&ks=%e5%a4%a7%e6%95%b8%e6%93%9a&page=1')
         soup = BeautifulSoup(res.text)
         for a in soup.select('.halfbox')[0].select('li'):
             if str(type(a.a))!= "<class 'NoneType'>":
                 res2 = requests.get('https:' + a.a['href'])
                 soup2 = BeautifulSoup(res2.text)
                 print(soup2.h1.string)
         C:\Users\Json\Anaconda3\lib\site-packages\bs4\ init .py:181: UserWarning: No parser was explicitly specified, so I'm using the
         e best available HTML parser for this system ("lxml"). This usually isn't a problem, but if you run this code on another syste
         m, or in a different virtual environment, it may use a different parser and behave differently.
         The code that caused this warning is on line 193 of the file C:\Users\Json\Anaconda3\lib\runpy.py. To get rid of this warning,
         change code that looks like this:
          BeautifulSoup(YOUR MARKUP})
         to this:
          BeautifulSoup(YOUR MARKUP, "lxml")
           markup type=markup type))
         會計
         資料分析師 (Clinical Data Analyst)
         資料分析師
         資料分析師
         台北總公司 全職 資料分析師Data Analyst
         資料分析人員
         資料分析人員
         J03 資料分析師
         I3901 Big Data Sr. Analyst/大數據資深分析師(Familiar with SQL and Trinity)
```