Get Data

This section covers tools to get some data for your projects.

faker: Create Fake Data in One Line of Code

```
!pip install Faker
```

To quickly create fake data for testing, use faker.

```
>>> from faker import Faker

>>> fake = Faker()

>>> fake.color_name()
```

```
'CornflowerBlue'
```

```
>>> fake.name()
```

```
'Michael Scott'
```

```
>>> fake.address()
```

```
'881 Patricia Crossing\nSouth Jeremy, AR 06087'
```

```
>>> fake.date_of_birth(minimum_age=22)
```

```
datetime.date(1927, 11, 5)
```

```
>>> fake.city()
```

```
'North Donald'
```

```
>>> fake.job()
```

```
'Teacher, secondary school'
```

Link to faker

Link to my full article on faker.

Random User: Generate Random User Data in One Line of Code

Have you ever wanted to create fake user data for testing? Random User Generator is a free API that generates random user data. Below is how to download and use this data in your code.

```
import json
from urllib.request import urlopen

# Show 1 random users
data = urlopen("https://randomuser.me/api?results=1").read()
users = json.loads(data)["results"]
users
```


```
[{'gender': 'female',
  'name': {'title': 'Miss', 'first': 'Ava', 'last': 'Hansen'},
  'location': {'street': {'number': 3526, 'name': 'George
Street'},
   'city': 'Worcester',
   'state': 'Merseyside',
   'country': 'United Kingdom',
   'postcode': 'K7Z 3WB',
   'coordinates': {'latitude': '11.9627', 'longitude':
'17.6871'},
   'timezone': {'offset': '+9:00',
    'description': 'Tokyo, Seoul, Osaka, Sapporo, Yakutsk'}},
  'email': 'ava.hansen@example.com',
  'login': {'uuid': '253e53f9-9553-4345-9047-fb18aec51cfe',
   'username': 'heavywolf743',
   'password': 'cristina',
   'salt': 'xwnpqwtd',
   'md5': '2b5037da7d78258f167d5a3f8dc24edb',
   'sha1': 'fabbede0577b3fed686afd319d5ab794f1b35b02',
```

```
   'sha256':
'd42e2061f9c283c4548af6c617727215c79ecafc74b9f3a294e6cf09afc59
06f'},
  'dob': {'date': '1948-01-21T10:26:00.053Z', 'age': 73},
  'registered': {'date': '2011-11-19T03:28:46.830Z', 'age':
10},
  'phone': '015242 07811',
  'cell': '0700-326-155',
  'id': {'name': 'NINO', 'value': 'HT 97 25 71 Y'},
  'picture': {'large':
'https://randomuser.me/api/portraits/women/60.jpg',
   'medium':
'https://randomuser.me/api/portraits/med/women/60.jpg',
   'thumbnail':
'https://randomuser.me/api/portraits/thumb/women/60.jpg'},
  'nat': 'GB'}]
```


Link to Random User Generator.

fetch_openml: Get OpenML's Dataset in One Line of Code

OpenML has many interesting datasets. The easiest way to get OpenML's data in Python is to use the `sklearn.datasets.fetch_openml` method.

In one line of code, you get the OpenML's dataset to play with!

```
from sklearn.datasets import fetch_openml

monk = fetch_openml(name="monks-problems-2", as_frame=True)
print(monk["data"].head(10))
```

```
  attr1 attr2 attr3 attr4 attr5 attr6
0     1     1     1     1     2     2
1     1     1     1     1     4     1
2     1     1     1     2     1     1
3     1     1     1     2     1     2
4     1     1     1     2     2     1
5     1     1     1     2     3     1
6     1     1     1     2     4     1
7     1     1     1     3     2     1
8     1     1     1     3     4     1
9     1     1     2     1     1     1
```

Autoscraper

```
!pip install autoscraper
```

If you want to get the data from some websites, Beautifulsoup makes it easy for you to do so. But can scraping be automated even more? If you are looking for a faster way to scrape some complicated websites such as Stackoverflow, Github in a few lines of codes, try autoscraper.

All you need is to give it some texts so it can recognize the rule, and it will take care of the rest for you!

```
from autoscraper import AutoScraper

url = "https://stackoverflow.com/questions/2081586/web-
scraping-with-python"

wanted_list = ["How to check version of python modules?"]

scraper = AutoScraper()
result = scraper.build(url, wanted_list)

for res in result:
    print(res)
```

```
How to execute a program or call a system command?
What are metaclasses in Python?
Does Python have a ternary conditional operator?
Convert bytes to a string
Does Python have a string 'contains' substring method?
How to check version of python modules?
```

Link to autoscraper.

pandas-reader: Extract Data from Various Internet Sources Directly into a Pandas DataFrame

```
!pip install pandas-datareader
```

Have you wanted to extract series data from various Internet sources directly into a pandas DataFrame? That is when pandas_reader comes in handy.

Below is the snippet to extract daily data of AD indicator from 2008 to 2018.

```
import os
from datetime import datetime
import pandas_datareader.data as web

df = web.DataReader(
    "AD",
    "av-daily",
    start=datetime(2008, 1, 1),
    end=datetime(2018, 2, 28),
    api_key=os.gehide-outputtenv("ALPHAVANTAGE_API_KEY"),
)
```

Link to pandas_reader.

pytrends: Get the Trend of a Keyword on Google Search Over Time

```
!pip install pytrends
```

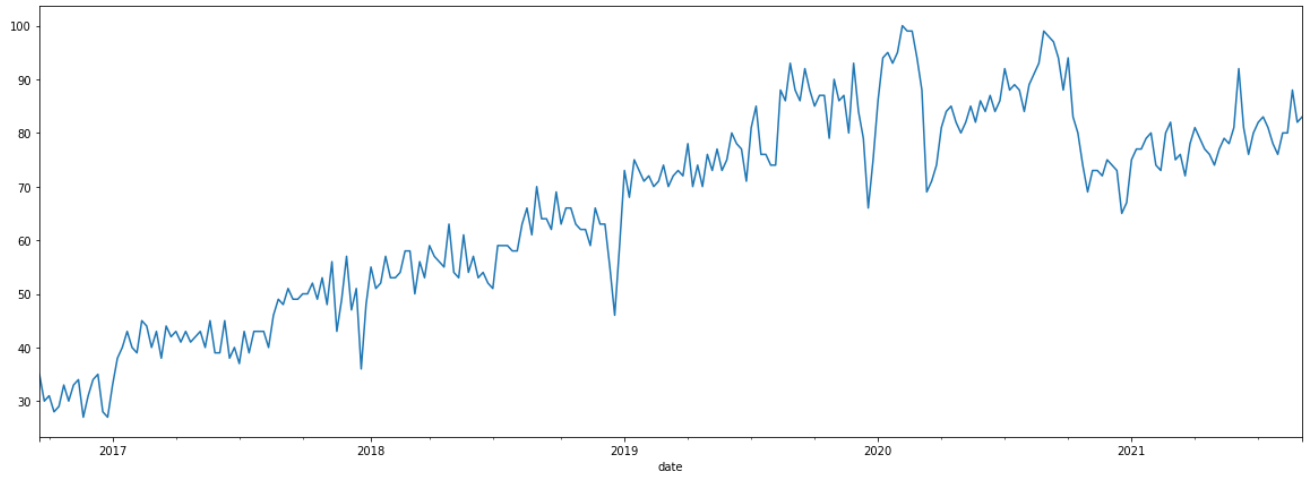
If you want to get the trend of a keyword on Google Search over time, try pytrends.

In the code below, I use pytrends to get the interest of the keyword “data science” on Google Search from 2016 to 2021.

```
from pytrends.request import TrendReq
```

```
pytrends = TrendReq(hl="en-US", tz=360)
pytrends.build_payload(kw_list=["data science"])

df = pytrends.interest_over_time()
df["data science"].plot(figsize=(20, 7))
```



Link to pytrends