

'Smart' Data Acquisition

for ML|AI

Related Live sessions:

{ How to code effectively and build a web-scraper | Applied AI Course https://youtu.be/EYzTeb_VXoI?t=4150

Using Web-APIs in Python for ML | Applied AI Course <https://youtu.be/Rn3UUnXFPII>

→ Code

Strategies & 'hacks'

Real-world Problem: Extract important 'aspects'
for products

e.g: headphones → mic, noise cancelling,
cheap, kids, wireless,
gaming,

Why are 'aspects' helpful?

Deals
 Today's Deals

Made for Amazon
 Made for Amazon

Pay On Delivery
 Eligible for Pay On Delivery

Microphone
 With Microphone
 Without Microphone

Headphone Connection Type
 Wired
 Wired & Wireless
 Wireless

Connectivity Technology
 Bluetooth Wireless
 Wired USB
 Wired-3.5 MM Single Pin

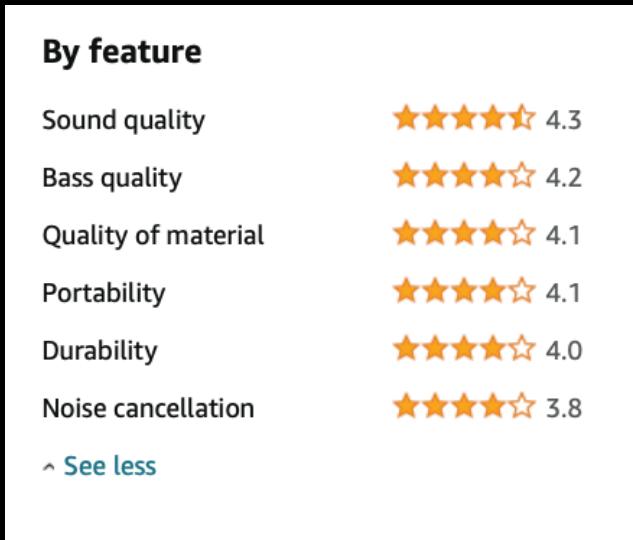
Headphone Wireless Transmission Type
 Bluetooth
 Infrared
 NFC
 RF

→ automatic search filters

'aspect' based sentiment analysis (ABSA)

Read reviews that mention

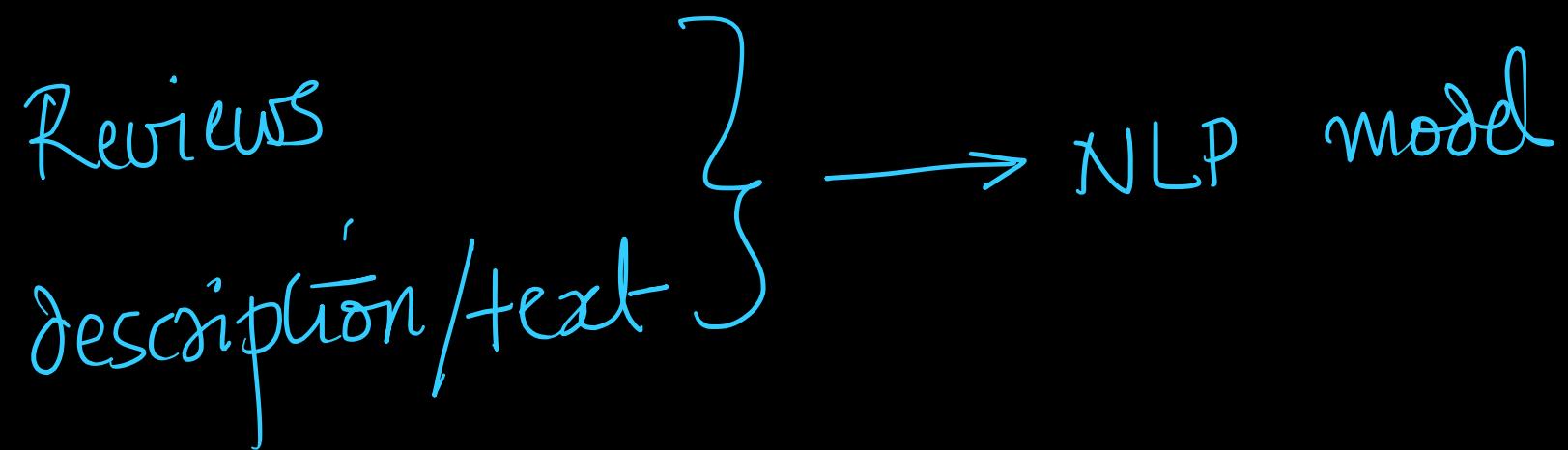
sound quality noise cancellation value for money price range
stopped working quality is good light weight long time
good sound must buy bass quality worth the money also good



Q. Given a product category, how to obtain
'aspects'?

-Please Suggest -

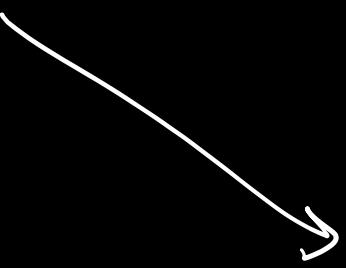
Q. Given a product category, how to obtain
'aspects'?



Q. Given a product category, how to obtain
'aspects'?

Is there a 'hacky' way to obtain 'aspects'
data easily?

Search-engines → Auto-complete



Answers / related Questions

Top Search results

Gold-mine of data

Auto-complete

- based on frequently asked queries (human-data)
- Bing AutoSuggest API
- Amazon: webscraping (beautifulSoup)
 - ↳ respect robots.txt

'Aspects' using Auto suggest

headphones

$\rightarrow L^-$

headphones a

$\rightarrow La$

headphones b

$\rightarrow L_b$

:

:

:

headphones z

$\rightarrow L_z$

} ranked lists



100 Important Preposition List

- | | | | |
|-----------------|------------------------|---------------------|--------------------|
| 1. About | 26. Beneath | 51. In to | 76. Per |
| 2. Above | 27. Beside | 52. Inside | 77. Prior to |
| 3. Abroad | 28. Besides | 53. Instead of | 78. Round |
| 4. According to | 29. Between | 54. Into | 79. Since |
| 5. Across | 30. Beyond | 55. Like | 80. Than |
| 6. After | 31. But | 56. Near | 81. Through |
| 7. Against | 32. By | 57. Next | 82. Throughout |
| 8. Ago | 33. By means of | 58. Next to | 83. Till |
| 9. Ahead of | 34. Close to | 59. Notwithstanding | 84. Times |
| 10. Along | 35. Despite | 60. Of | 85. To |
| 11. Amidst | 36. Down | 61. Off | 86. Toward |
| 12. Among | 37. Due to | 62. On | 87. Towards |
| 13. Amongst | 38. During | 63. On account of | 88. Under |
| 14. Apart | 39. Except | 64. On behalf of | 89. Underneath |
| 15. Around | 40. For | 65. On to | 90. Unlike |
| 16. As | 41. From | 66. On top of | 91. Until |
| 17. As far as | 42. Hence | 67. Onto | 92. Unto |
| 18. As well as | 43. In | 68. Opposite | 93. Up |
| 19. Aside | 44. In accordance with | 69. Out | 94. Upon |
| 20. At | 45. In addition to | 70. Out from | 95. Via |
| 21. Away | 46. In case of | 71. Out of | 96. With |
| 22. Because of | 47. In front of | 72. Outside | 97. With a view to |
| 23. Before | 48. In lieu of | 73. Over | 98. Within |
| 24. Behind | 49. In place of | 74. Owing to | 99. Without |
| 25. Below | 50. In spite of | 75. Past | 100. Worth |

With

Under

for

by

most often occurring in lists:

gaming

boat (brand)

Sony (brand)

type-C

:

Another problem :

Is a given name a valid name ?

Another problem:

Is a given name a valid name?

common solution: Named entity Recognition (NER)

Another problem:

Is a given name a valid name?

common solution: Named entity Recognition (NER)



does not work well for non-European
names-

Can we use search-engines here ?

- Please Suggest -

Surname:

Microsoft Bing chekuri surname 🔍

ALL IMAGES VIDEOS MAPS NEWS SHOPPING

28,200 Results Date Language Region

ChekuriName Meaning Historically, surnames evolved as a way to sort people into groups - by occupation, place of origin, clan affiliation, patronage, parentage, adoption, and even physical characteristics (like red hair). Many of the modern surnames in the dictionary can be traced back to Britain and Ireland.

[Chekuri Name Meaning & Chekuri Family History at Ancestry.com®](#)
www.ancestry.com/name-origin?surname=chekuri

Was this helpful? Like Unlike

PEOPLE ALSO ASK

What does the name Chekuri mean? ▾

What is the meaning of the surname Kshatriya? ▾

Where are Kshatriya surnames found? ▾

What are Kshatriya surnames? ▾

Feedback

[Chekuri Name Meaning & Chekuri Family History at Ancestry.com®](#)
<https://www.ancestry.com/name-origin?surname=chekuri>

ChekuriName Meaning Historically, surnames evolved as a way to sort people into groups - by occupation, place of origin, clan affiliation, patronage, parentage, adoption, and even physical characteristics (like red hair). Many of the modern surnames in the dictionary can be traced back to Britain and Ireland.

[What Does The Name Chekuri Mean?](#)
<https://www.names.org/n/chekuri/about>

As a last name Chekuri was the 111,426 th most popular name in 2010. How unique is the name Chekuri? Out of 6,028,151 records in the U.S. Social Security Administration public data, the first name Chekuri was not present. It is possible the name you are searching has less than five occurrences per year. Weird things about the name Chekuri: The name spelled backwards is ...

Microsoft Bing

chekuri

ALL IMAGES VIDEOS MAPS NEWS SHOPPING

43,000 Results Date ▾ Language ▾ Region ▾

Chandra Chekuri
[chekuri.cs.illinois.edu](#) ▾

 Chandra Chekuri. Paul and Cynthia Saylor Professor. Algorithms/Theory Group. Department of Computer Science. University of Illinois, Urbana-Champaign. Contact Information. 3228 Siebel Center, 201 N. Goodwin Ave, Urbana, IL 61801 ...

[Illinois Computer Science - U of I](#) · [Karthik Chandrasekaran](#) · [Talks](#) · [Papers](#)

What Does The Name Chekuri Mean? - The Meaning of Names
<https://www.names.org/n/chekuri/about>

As a last name **Chekuri** was the 111,426 th most popular name in 2010. How unique is the name **Chekuri**? Out of 6,028,151 records in the U.S. Social Security Administration public data, the first name **Chekuri** was not present. It is possible the name you are searching has less than five occurrences per year.

Related searches

- [dr chekuri athens ga](#)
- [dr chekuri satyanarayana](#)
- [dr suneetha chekuri](#)
- [asha chekuri md](#)
- [dr chekuri](#)
- [dr anita chekuri](#)
- [dr asha chekuri](#)
- [dr kasi chekuri corpus christi](#)

→ Related Searches

Baby names

Microsoft Bing srikanth name meaning Date Language Region

ALL IMAGES VIDEOS MAPS NEWS SHOPPING

10,60,000 Results

Name Srikanth or (Srikanth) means **Charming; Lord Vishnu; Good; Lord Venkateshwara.** Person with name Srikanth are under this section have an influential personality, which they enjoy making use of. With this trait, they can pursue people according to their own wish. This name is which foreshadows that, its natives may be victims of some accident.



[Srikanth - meaning | Baby Name Srikanth meaning and Horoscope](#)
 www.moonastro.com/babynname/baby%20name%20srikanth%20meaning.aspx

Was this helpful? Like Unlike

PEOPLE ALSO ASK

What does the name srikanth mean? ▼

Is Srikanth a male or female name? ▼

What does the name Shri mean? ▼

How popular is the name srikanth? ▼

Feedback

[Meaning of Srikanth | Hindu Boy Name Srikanth | Bachpan.com](#)
<https://www.bachpan.com/meaning-of-srikanth.aspx> Name Meaning Numerology Srikanth: Lover of wealth; Fortune; Respect; Esteem; Wisdom; Light 1
3.5/5 ★★★★☆

[Srikanth - meaning | Baby Name Srikanth meaning and Horoscope](#)
<https://www.moonastro.com/babynname/baby name srikanth meaning.aspx> Name Srikanth or (Srikanth) means Charming; Lord Vishnu; Good; Lord Venkateshwara. Person with name Srikanth are under this section have an influential personality, which they enjoy making use of. With this trait, they can pursue people according to their own wish.

Various nationalities/cultures

Microsoft Bing **butros name meaning** 🔍

ALL IMAGES VIDEOS MAPS NEWS SHOPPING

1,84,000 Results Date Language Region

Name Meaning of Boutros Meaning: The meaning of the name Boutros is: **Stone**. Please feel free to read what others say about this name and to share your comments if you have more information.

Name Boutros - The Meaning Of The Name
themeaningofthename.com/boutros/

Was this helpful?

PEOPLE ALSO ASK

What does Boutros mean? ▾
Is Boutros a boy or girl name? ▾
What does the name Butrus mean? ▾
Who was Boutros Ghali's father? ▾

Feedback

Butros - Name Meaning - Is the name of Butros helping you?
<https://www.kabalarians.com/Male/butros.htm>

Butros - Detailed Meaning. Your name of Butros gives you a sincere desire to do something worthwhile with your life. Your strong sense of justice causes you to champion worthwhile causes, usually of a humanitarian nature. Because you are apt to place those whom you admire on a pedestal, you often become disillusioned when they fall short of your expectations. ...

Butros Name Meaning & Butros Family History at Ancestry.com®
<https://www.ancestry.com/name-origin?surname=butros>

Butros Name Meaning Historically, surnames evolved as a way to sort people into groups - by occupation, place of origin, clan affiliation, patronage, parentage, adoption, and even physical characteristics (like red hair).

misspelt

Boutros Boutros-Ghali

Former Foreign Minister of Egypt

Boutros Boutros-Ghali was an Egyptian politician and diplomat who was the sixth Secretary-General of the United Nations from January 1992 to December 1996. [Wikipedia](#)

Born: 14 November 1922, Cairo, Egypt

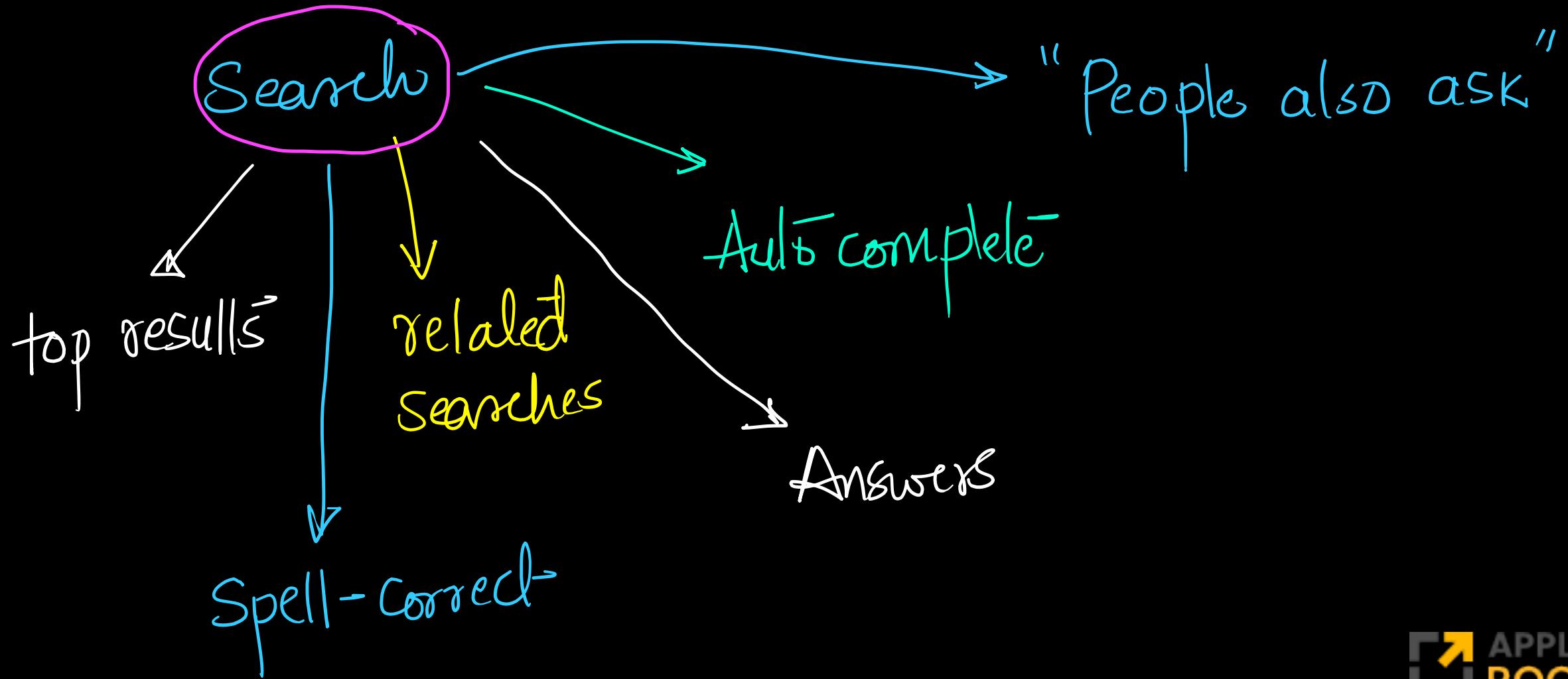
Died: 16 February 2016, Cairo, Egypt

Nationality: Egyptian

Spouse: [Lilly Kahil](#) (m. ?–2016)

Movies: [Eye of the Sun](#), [Back Door Channels: The Price of Peace](#), [Walad w Bent](#), [Planet U.N.](#), [Help ou visibilité](#)

Super-Valuable "internet data"



All you need is a 'problem-solving' attitude

Computer Vision problem: Label images (Custom)

- look images (\mathcal{D}) unlabelled
- e.g.: fish species $[c_1, c_2, c_3, c_4]$

$\mathcal{D} \rightarrow$ Poetcained $\rightarrow \{v_1, v_2, \dots, v_n\}$

$\{x_1, x_2, \dots, x_n\}$ CNN

Google Image Search



$C_1 \rightarrow \text{Retained}$

images
(top - 10)

CNN

$\{C_{11}, C_{12}, \dots, C_{110}\}$

→ top - 100 is better
[manual review]

Similarly,

$$C_{11}, \dots, C_{110} \rightarrow C_1$$

$$C_{21}, \dots, C_{210} \rightarrow C_2$$

$$C_{31}, \dots, C_{310} \rightarrow C_3$$

$$C_{41}, \dots, C_{410} \rightarrow C_4$$

v_1, \dots, v_n

c_{11}, \dots, c_{1D}

c_{21}, \dots, c_{2D}

c_{31}, \dots, c_{3D}

c_{41}, \dots, c_{4D}

Find nearest-neighbor
amongst labelled vecns

obtain tentative labels
for v_1, \dots, v_n

[errors may exist]

UI for human correction.

C1

10x10
grid

Find odd man out

- 100 -images in one shot [few mins]
- look images → label in 3-4 man-days.

'Smart' labeling using internet data
+ UI

Q&A

Post questions on chat window

