

A story of auto-completions

MICES US 2022

@M_I_C_E_S

Lucian Precup and Radu Pop

@lucianprecup

@search_with_all

@a2lean

[adelean]

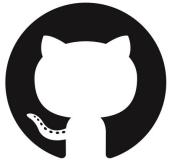
- Experts in Search Technologies
- Integrators of Elasticsearch and Solr
- Consulting, Services and Training providers
- Developers of a2 - your Search Engine Technology for E-Commerce and Enterprise Search



[all.site]



Wikipedia and Wikidata -
knowledge databases →
powered by the community



Github - code and coders'
social network → powered by
the community



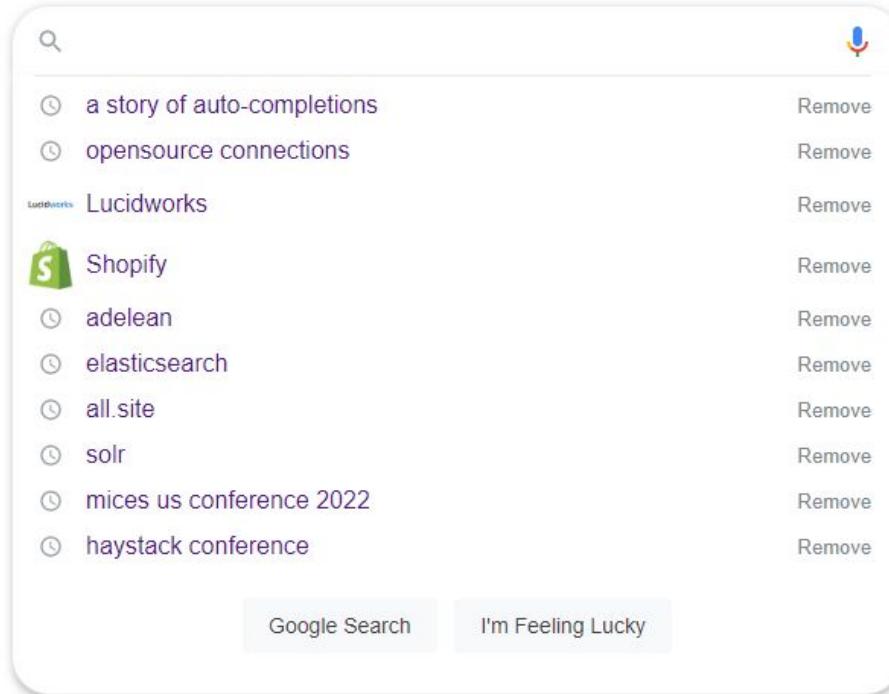
Reddit - the frontpage of the
Internet → powered by the
community



a// - your collaborative search engine
→ powered by the community

Auto-completion?

Google

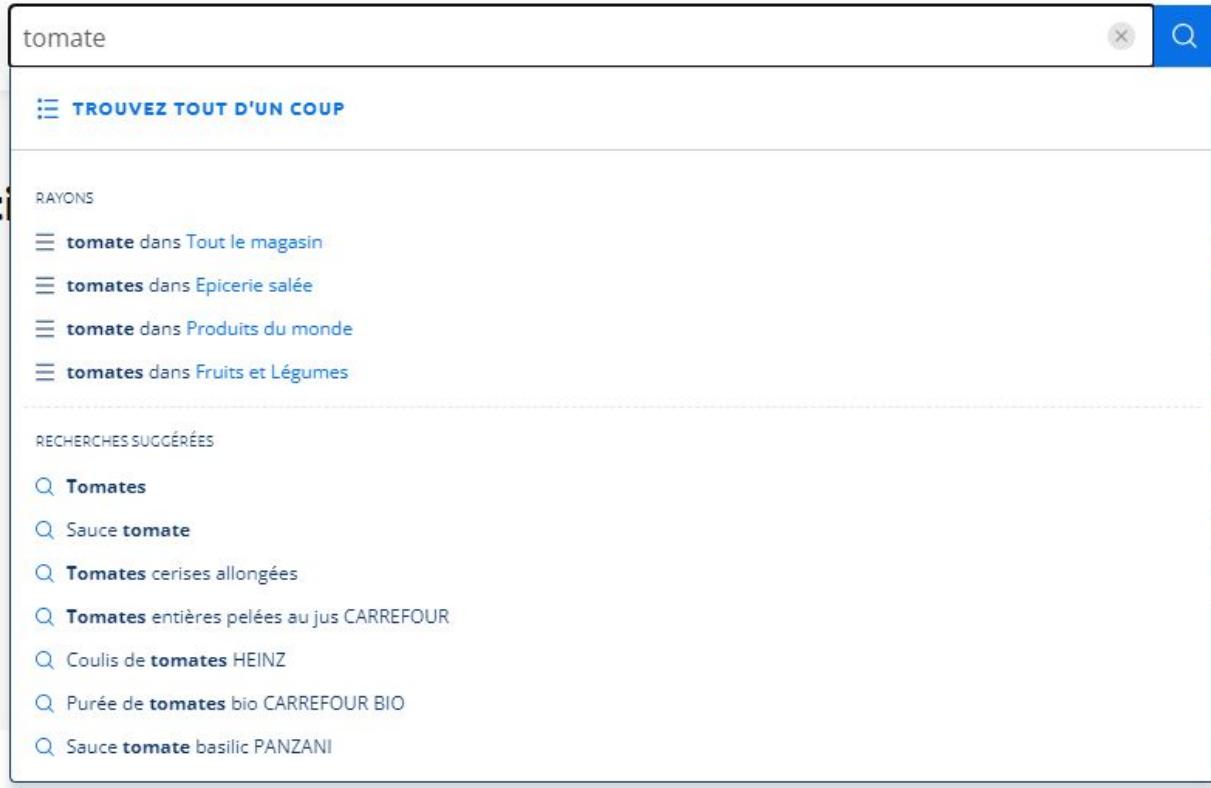


A screenshot of a Google search interface. At the top, there is a search bar with a magnifying glass icon and a microphone icon. Below the search bar, a list of auto-completion suggestions is displayed. Each suggestion consists of a small circular icon with a refresh symbol, followed by the query text and a 'Remove' button. The suggestions are categorized into sections: 'Lucidworks' and 'Shopify'. The 'Lucidworks' section includes 'opensource connections' and 'Lucidworks'. The 'Shopify' section includes 'adelean', 'elasticsearch', 'all.site', 'solr', 'mices us conference 2022', and 'haystack conference'. At the bottom of the interface, there are two buttons: 'Google Search' and 'I'm Feeling Lucky'.

- ⌚ a story of auto-completions Remove
- ⌚ opensource connections Remove
- Lucidworks Lucidworks Remove
-  Shopify Remove
- ⌚ adelean Remove
- ⌚ elasticsearch Remove
- ⌚ all.site Remove
- ⌚ solr Remove
- ⌚ mices us conference 2022 Remove
- ⌚ haystack conference Remove

Google Search I'm Feeling Lucky

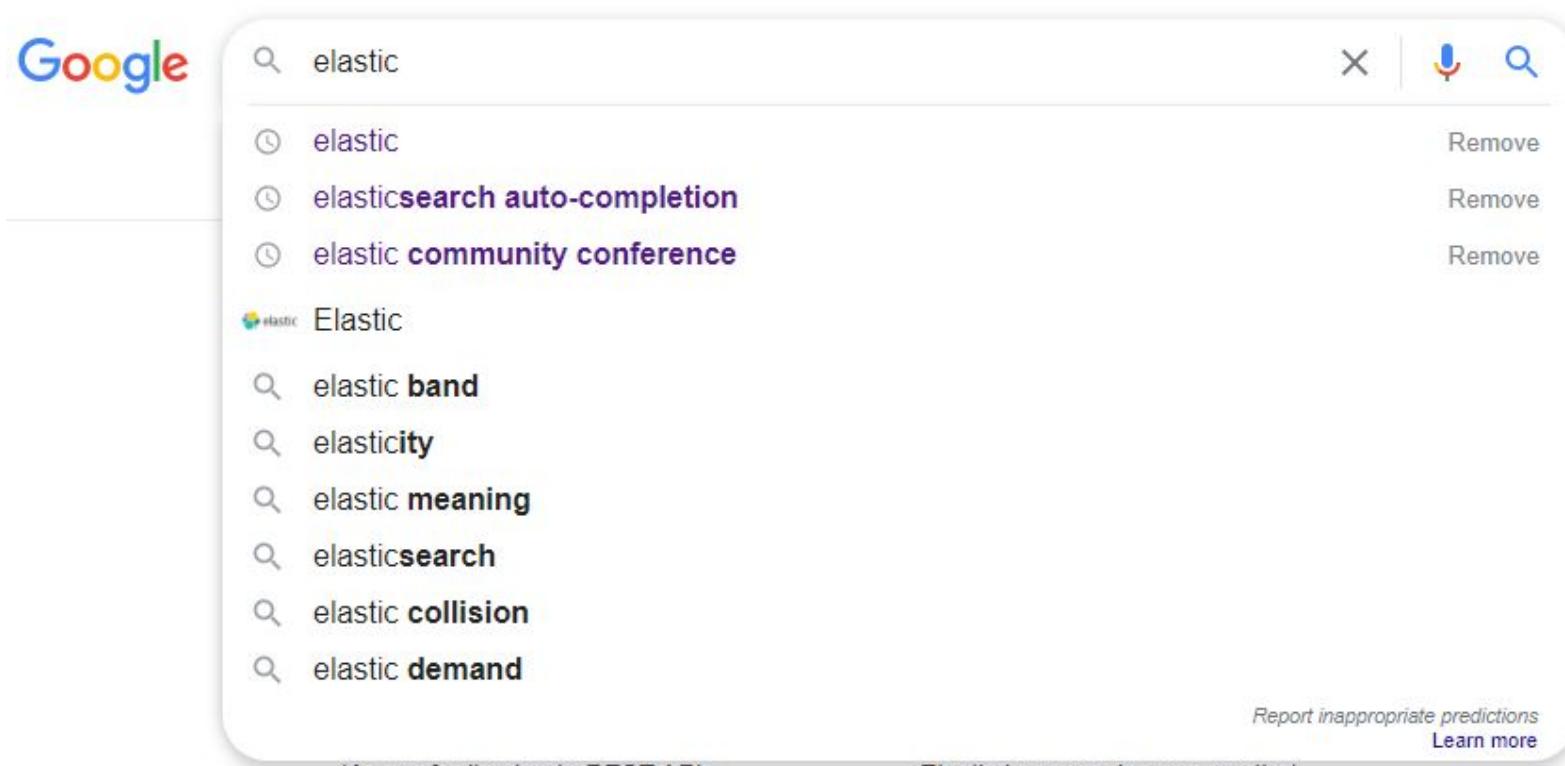
Auto-completion?



A screenshot of a grocery store's search interface. The search bar at the top contains the text "tomate". Below the search bar, a blue header bar displays the text "TROUVEZ TOUT D'UN COUP". The main content area is divided into sections: "RAYONS" and "RECHERCHES SUGGÉRÉES".

- RAYONS**
 - [tomate dans Tout le magasin](#)
 - [tomates dans Epicerie salée](#)
 - [tomate dans Produits du monde](#)
 - [tomates dans Fruits et Légumes](#)
- RECHERCHES SUGGÉRÉES**
 - [Tomates](#)
 - [Sauce tomate](#)
 - [Tomates cerises allongées](#)
 - [Tomates entières pelées au jus CARREFOUR](#)
 - [Coulis de tomates HEINZ](#)
 - [Purée de tomates bio CARREFOUR BIO](#)
 - [Sauce tomate basilic PANZANI](#)

Auto-completion?



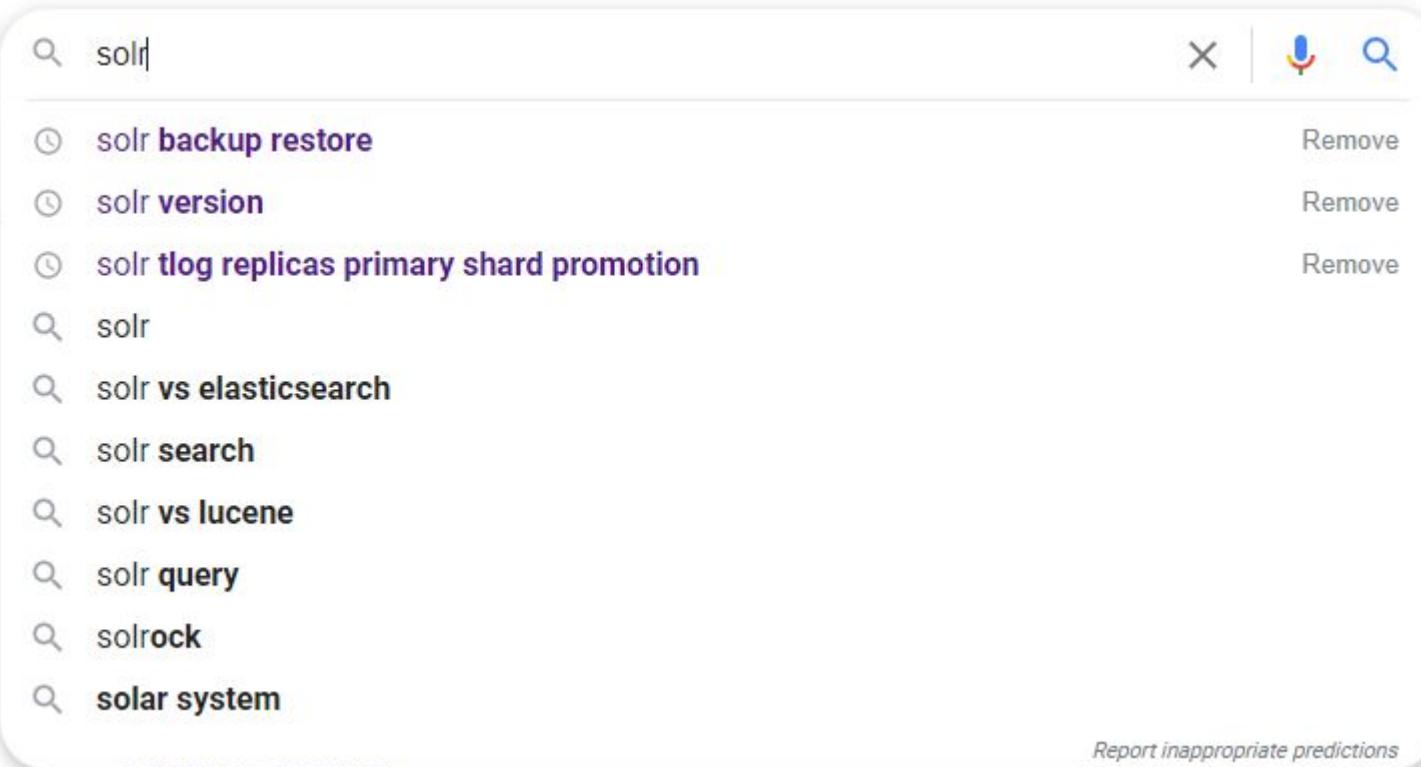
The image shows a Google search interface with the query 'elastic' in the search bar. Below the search bar is a list of search suggestions. The suggestions are categorized into three sections: recent searches, related searches, and search partners.

- Recent searches:**
 - elastic
 - elastic**search auto-completion**
 - elastic **community conference**
- Related searches:**
 - Elastic
 - elastic **band**
 - elastic**ity**
 - elastic **meaning**
 - elastic**search**
 - elastic **collision**
 - elastic **demand**
- Search partners:**
 -  Elastic

At the bottom right of the suggestions list, there are two links: 'Report inappropriate predictions' and 'Learn more'.

Known for its simple REST APIs, Elastic is a search company that

Auto-completion?



A screenshot of a Google search bar showing auto-completion suggestions for the query "solr". The suggestions are listed in a dropdown menu. Each suggestion includes a magnifying glass icon, the suggestion text, and a "Remove" link to the right. The suggestions are:

- solr backup restore
- solr version
- solr tlog replicas primary shard promotion
- solr
- solr vs elasticsearch
- solr search
- solr vs lucene
- solr query
- solrock
- solar system

At the bottom right of the dropdown, there is a link "Report inappropriate predictions".

Auto-completion?

Google

elastic

- elasticsearch auto-completion
- elastic community conference
- elasticsearch
- elastic for sewing
- elastic software
- elastic stack
- elastic company
- elastic login
- elastic in economics
- elastic material
- elastic band
- kibana

Remove People also ask

- Remove What is elastic use?
- Remove What is elastic tool?
- Remove What is elastic server?

People also search for

Michaels Made by you elastic JOANN

Michaels Elastic NV Jo-Ann Stores Elastic Heart Song by Diplo, Sia, and The...

Report inappropriate predictions Learn more

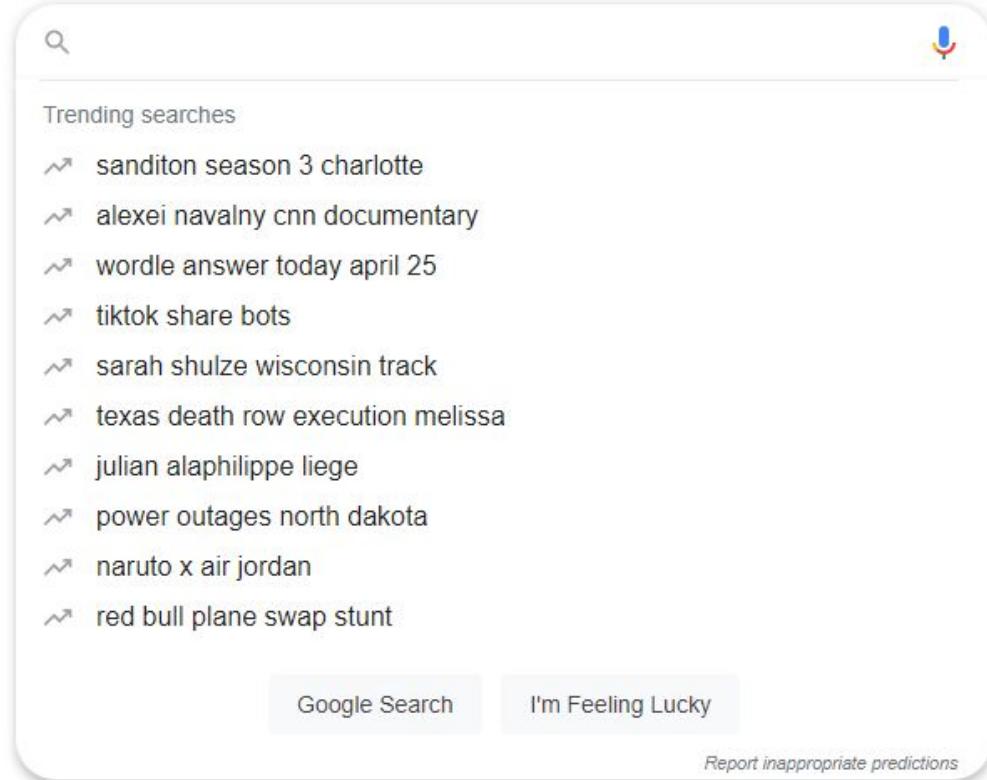
Careers - Meet our teams - Board

Download Kibana - Download

observability and analytics use cases

Wikimedia

Auto-completion?



A screenshot of the Google search interface. At the top, there is a search bar with a magnifying glass icon and a microphone icon for voice search. Below the search bar, the text "Trending searches" is displayed. A list of 12 trending search terms is shown, each preceded by a small blue arrow icon:

- sanditon season 3 charlotte
- alexei navalny cnn documentary
- wordle answer today april 25
- tiktok share bots
- sarah shulze wisconsin track
- texas death row execution melissa
- julian alaphilippe liege
- power outages north dakota
- naruto x air jordan
- red bull plane swap stunt

At the bottom of the interface, there are two buttons: "Google Search" and "I'm Feeling Lucky". Below these buttons, a small link reads "Report inappropriate predictions".

Auto-completion?



Microphone icon

Trending searches

- ↗ tiktok remove rotoscope filter
- ↗ liver disease outbreak
- ↗ wordle answer april 25
- ↗ loan forgiveness student loans
- ↗ sarah shulze wisconsin track
- ↗ colonia high school nj brain tumors
- ↗ emilia romagna grand prix f1
- ↗ texas death row execution melissa

 Doctor Strange 2
2022 film

- ↗ football usfl

[Google Search](#) [I'm Feeling Lucky](#)

Report inappropriate predictions

Auto-completion?

29 433

pica

Réponses dans les filtres

COLLECTION [1 / 1]

- Frac Picardie [1 307]

NOM ARTISTE [3 / 3]

- PICA Amalla [2]
- PICARD Albert Julien Theresius [1]
- PICARD Lil (BENEDICK Lili Elisabeth, dit) [1]

Réponses complémentaires par le texte intégral dans les rubriques non filtrées

Mots dans la rubrique "Infos image"

- picardie
- picasso

Mots dans la rubrique "Infos ensemble"

- picardie

Mots dans la rubrique "Titres"

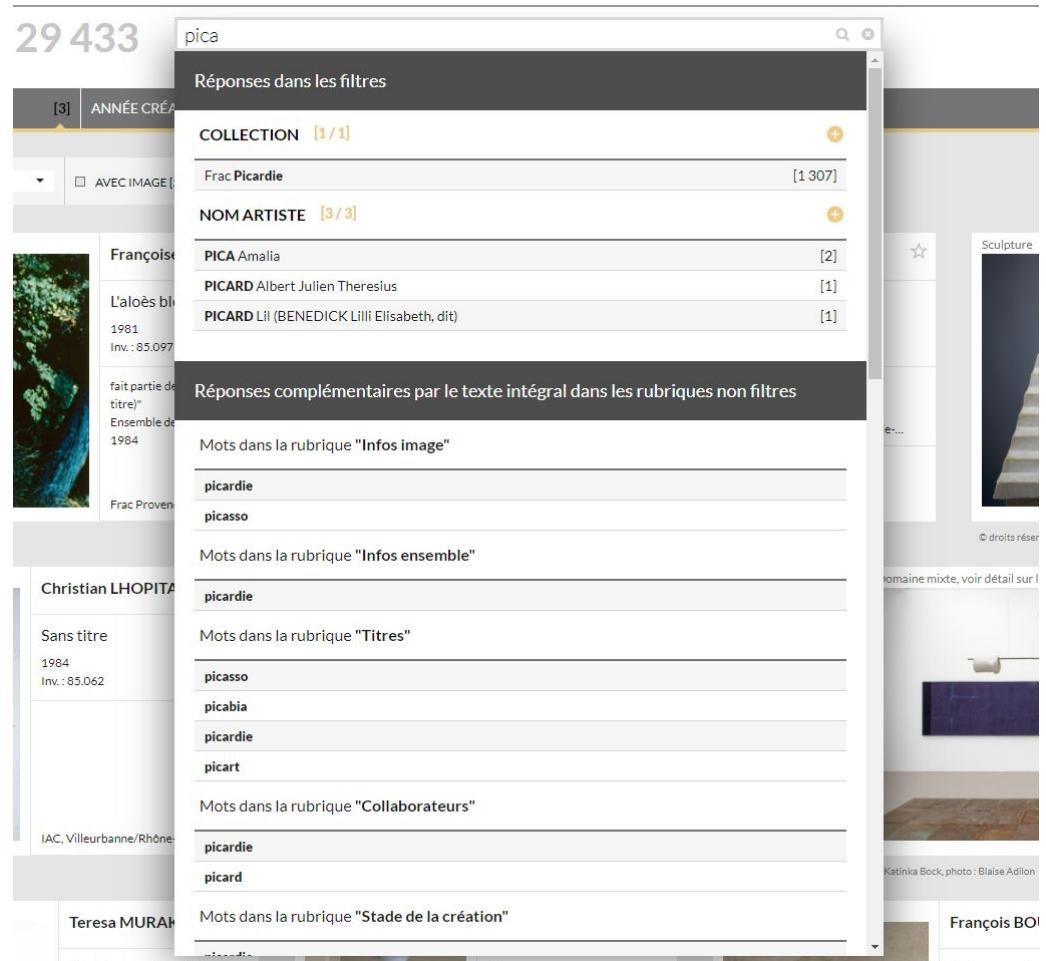
- picasso
- picabia
- picardie
- picart

Mots dans la rubrique "Collaborateurs"

- picardie
- picard

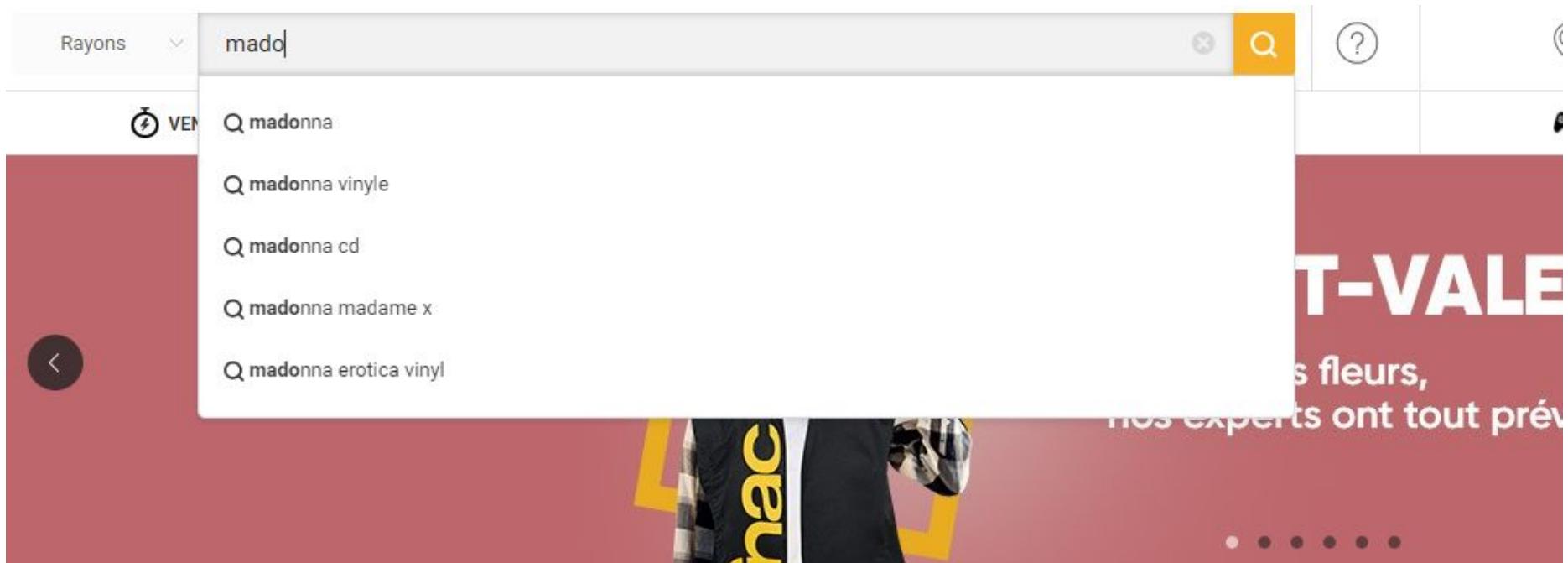
Mots dans la rubrique "Stade de la création"

- picardie

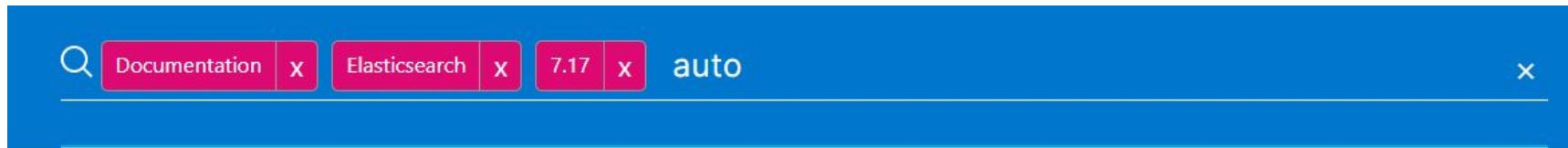


The screenshot shows a digital library interface with a search bar at the top containing the text 'pica'. Below the search bar, the number '29 433' is displayed. The main content area is a search results page with a sidebar on the right showing a thumbnail of a sculpture and some text. The search results are organized into sections: 'COLLECTION' (1 result: 'Frac Picardie'), 'NOM ARTISTE' (3 results: 'PICA Amalla', 'PICARD Albert Julien Theresius', 'PICARD Lil (BENEDICK Lili Elisabeth, dit)'), and several sections for 'Réponses complémentaires par le texte intégral dans les rubriques non filtrées'. These sections include 'Infos image' (results: 'picardie', 'picasso'), 'Infos ensemble' (result: 'picardie'), 'Titres' (results: 'picasso', 'picabia', 'picardie', 'picart'), 'Collaborateurs' (results: 'picardie', 'picard'), and 'Stade de la création' (result: 'picardie'). The sidebar on the right shows a thumbnail of a sculpture and some text, including 'Sculpture', '© droits réservés', 'domaine mixte, voir détail sur l', 'Karinika Bock, photo : Blaise Adlon', and 'François BOI'.

Auto-completion?



Auto-completion?



Manage **auto**-follow patterns | Elasticsearch Guide [7.17]

DOC — To replicate time series indices, you configure an **auto**-follow pattern so that each new index in

Pause **auto**-follow pattern API | Elasticsearch Guide [7.17]

DOC — Pauses an **auto**-follow pattern. Request POST `/_ccr/auto_follow/<auto_follow_pattern_name>/pause`

Cross-cluster replication APIs | Elasticsearch Guide [7.17]

DOC — follower indices Get info about follower indices **Auto**-follow Create **auto**-follow pattern Delete **auto**-follow

Resume **auto**-follow pattern API | Elasticsearch Guide [7.17]

DOC — Resumes an **auto**-follow pattern. Request POST `/_ccr/auto_follow/<auto_follow_pattern_name>/resume`

Get **auto**-follow pattern API | Elasticsearch Guide [7.17]

DOC — Get **auto**-follow patterns. Request GET `/_ccr/auto_follow/` GET `/_ccr/auto_follow`

Auto-completion?

Q Documentation X Elasticsearch X 7.17 X auto

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DOC — Get **auto**-follow patterns. Request GET `/_ccr/auto_follow/` GET `/_ccr/auto_follow`

Apache Solr Reference Guide

auto

[Migrating Rule-Based Replica Rules to Autoscaling Policies](#)

[Autoscaling API](#)

[SolrCloud Autoscaling Automatically Adding Replicas](#)

[SolrCloud Autoscaling Fault Tolerance](#)

[SolrCloud Autoscaling Listeners](#)

[Overview of SolrCloud Autoscaling](#)

[Autoscaling Policy and Preferences](#)

[SolrCloud Autoscaling Trigger Actions](#)

[SolrCloud Autoscaling Triggers](#)

[SolrCloud Autoscaling](#)

Auto-completion?

pass

passerport
passage
passe
passif
passager

ACCÈS DIRECTS

Fiches pratiques

- > Passeport
- > Passage rapide aux frontières : comment utiliser un pas Parafe ?
- > Primaire et secondaire : comment s'effectue le passage du privé au public ?

Services en ligne et formulaires

- > Déclaration de perte de carte d'identité ou de passeport - 14011*02
- > Demande de réquisition de passage - article L115 du Code des pensions militaires d'invalidité et des victimes de guerre - 14611*02
- > Demande de remboursement d'un timbre électronique Passeport - 15416*01 - 2846-SD

Actualités

- > Passe sanitaire - Tout savoir sur le passe vaccinal
- > Rappel vaccination Covid-19 - Passe vaccinal valide : quels changements à partir du 15 février ?
- > Passe vaccinal - Pass+ : la nouvelle fonctionnalité de « TousAntiCovid » pour le passe vaccinal dérogatoire

PAPIERS - CITOYEN
État-civil, Passeport, Papiers à conserver d'identité...

TRANSPORT
Carte grise, Permis de conduire, Contrôle technique, Infractions...

COMMENT FAIRE SI...

SERVICES EN LIGNE

QUESTIONS - RÉPONSES

Auto-completion?

parcoursup

Jeux de données (11)

Rechercher dans les réutilisations

Critères de recherche

Organisations ▾ Mots clés ▾ Licences ▾ Formats ▾ ...

② Venez tester notre nouvelle recherche de jeux de données.

Parcoursup 2020 - voeux de poursuite d'études et de réorientation dans l'enseignement supérieur et réponses des établissements

Le ministère de l'enseignement supérieur, de la recherche et de l'innovation

Ce jeu de données présente les voeux de poursuite d'études et de réorientation dans l'enseignement supérieur ainsi que les propositions des établissements pour chaque formation – hors apprentissage – à la fin du processus d'affectation de la plateforme Parcoursup pour la session 2020 (du 22 janvier ...)

5 ressources
0 réutilisations
0 favoris

Parcoursup : propositions d'admission dans l'enseignement supérieur des élèves de terminale diplômés du baccalauréat général selon leurs enseignements de spécialité

Le ministère de l'enseignement supérieur, de la recherche et de l'innovation

Les candidats de Parcoursup étudiés dans ces données sont les élèves de terminale générale inscrits sur Parcoursup 2021 ayant confirmé au moins un voeu en phase principale et diplômés du baccalauréat général 2021 en France (y compris DROM, COM et CNED, et hors établissements AEFE à l'étranger). Ce s...

2 ressources
0 réutilisations
0 favoris

Accès à l'enseignement supérieur : premier bilan de la loi orientation et réussite des étudiants

Le ministère de l'enseignement supérieur, de la recherche et de l'innovation

La loi relative à l'orientation et à la réussite des étudiants de 2018 vise à améliorer les trois étapes fondamentales du parcours des jeunes gens se destinant à l'enseignement supérieur : accompagnement et

1 ressources
0 réutilisations
0 favoris

Auto-completion?

choco X Q

Devenir client

SE CONNECTER

Créer un compte

PRODUITS

-  Muffin chocolat pépites de chocolat 40 g
Référence : 194046
-  Muffin tulipe chocolat, cœur chocolat 130 g
Référence : 159676
-  Muffin parfum chocolat avec morceaux de chocolat noir 100 g
Référence : 249250
-  Crème glacée chocolat avec morceaux de chocolat 2,4 L / 1,363 kg PassionFroid
Référence : 181591
-  Crème glacée chocolat avec morceaux de chocolat 5 L / 2,84 kg PassionFroid
Référence : 60187

[See all products for "choco"](#) Q

RECETTES

-  Brownie chocolat-menthe sur lit de chocolat
-  Le choco-orange
-  Le cube choco
-  Le tout chocolat
-  Trio de chocolats

[See all recipes for "choco"](#) Q

TEZ-NOUS

carte
os été
e complète,
it...

Auto-completion?

With love.

armoire

Produits 1

-  armoire à rideaux en bois
A129088
529,00 € HT
-  armoire haute portes battantes
A106922
435,00 € HT
-  armoire haute avec réhausse
A141375
529,00 € HT
-  Tablettes supplémentaires pour armoire
A745825
52,90 € HT
-  armoire haute avec réhausse
A755571
529,00 € HT
-  Tablettes supplémentaires pour armoire
A745825
52,90 € HT

Catégories 2

-  Armoire bois
dans Armoire
-  Armoire métal
dans Armoire
-  Armoire à compartimentage
dans Armoire d'atelier
-  Armoire à portes battantes
dans Armoire d'atelier
-  Armoire à portes coulissantes
dans Armoire d'atelier
-  Armoire à portes transparentes
dans Armoire d'atelier

Mots clés

- armoire
- Armoire et rangement
- armoire en bois 3
- armoire à double portes
- armoire à battantes

Marque

-  3M
-  ABUS
-  BELKIN
-  Matador

Devis gratuit sous 24 h

ECOMM

rep

S COL

t not

PROTE

esinfe

minu

DÉCOU

Livraiso

à partir

Auto-completion? Why?

- Providing meaningful results while typing
- Improve the query precision
- Guide the user
- Improve the query response time and responsiveness
- Improve the user experience



Everything around auto-completion

User Experience

Auto-completion 1: bring up “final” documents

User Interface

Auto-completion 2: bringing up “facets”

Technical details

Auto-completion 3: keywords and key phrases

Queries and Configurations

Auto-completion 4: when there is no input

Data Models

Auto-completion 5: filtered suggestions

Tips and Tricks

Return on Experience

A story of auto-completions at #ElasticCC



<https://community-conference.elastic.co/session/309778>

15:00 — 15:25 (EUROPE/PARIS)

14:00 — 14:25 (UTC)

Auto-complétion et auto-completions avec Elasticsearch

Il y a auto-complétion et auto-complétion. On dénombre au moins cinq types et implémentations différentes. Pour la plupart, un dictionnaire et index dédiés doivent être construits. Dans cette présentation, nous allons démontrer les possibilités d'Elasticsearch sur plusieurs cas d'utilisation de cette recherche avant la recherche, que nous appelons auto-complétion. Nous allons présenter les suggestions de termes à rechercher, des suggestions filtrées, des propositions de catégories, des propositions de résultats finaux, des propositions de noms propres comme les marques. Le tout avec le code Elasticsearch (requête, mapping et indexation) qui opère la magie du service.

Full session

Advanced

Enterprise search

Cloud



Lucian Precup
CTO | all.site



elastic | Community Conference

Auto-complétion et auto-completions avec Elasticsearch

—
Lucian Precup



Auto-completion: Don'ts!

- Check the “activate auto-completion” option
- Use the wildcard query
 - $q=elastic^*$ \Leftrightarrow LIKE “elastic%”
- [Elasticsearch] Use phrase prefix
 - Or if you do, at least, activate index_prefixes
- Auto-completion vs. “did you mean...”
- [Elasticsearch] Think that the completion suggester is just a configuration to set up
- [Elasticsearch] Think that the `search_as_you_type` data type solves everything
- Handle the highlighting in Javascript
- Use facets or aggregations



Auto-completion 1: bring up “final” documents

The screenshot shows a search interface with the query 'armoire' in the search bar. The results are categorized into 'Produits', 'Catégories', and 'Mots clés'.

Produits (1 result):

- armoire à rideaux en bois
A129088
529,00 € HT
- armoire haute portes battantes
A106922
435,00 € HT
- armoire haute avec réhausse
A141375
529,00 € HT
- Tablettes supplémentaires pour armoire
A745825
52,90 € HT
- armoire haute avec réhausse
A755571
529,00 € HT

Catégories (2 results):

- Armoire bois dans Armoire
- Armoire métal dans Armoire
- Armoire à compartimentage dans Armoire d'atelier
- Armoire à portes battantes dans Armoire d'atelier
- Armoire à portes coulissantes dans Armoire d'atelier
- Armoire à portes transparentes dans Armoire d'atelier

Mots clés (3 results):

- armoire
- Armoire et rangement
- armoire en bois
- armoire à double portes
- armoire à battantes

Solution : edge n-gram

```
1  {
2    "settings": {
3      "analysis": {
4        "analyzer": {
5          "edge_ngram": {
6            "tokenizer": "standard",
7            "filter": [
8              "my_edge_ngram"
9            ]
10           }
11        },
12        "filter": {
13          "my_edge_ngram": {
14            "type": "edge_ngram",
15            "min_gram": 1,
16            "max_gram": 19
17          }
18        }
19      }
20    },
21    "mappings": {
22      "properties": {
23        "session": {
24          "type": "text",
25          "analyzer": "french",
26          "fields": {
27            "edge_ngram": {
28              "type": "text",
29              "analyzer": "edge_ngram"
30            }
31          }
32        }
33      }
34    }
35  }
```

edge_ngram

```
1  {
2    "query": {
3      "multi_match": {
4        "query": "mot",
5        "fields": [
6          "session",
7          "session.edge_ngram"
8        ],
9        "operator": "and"
10      }
11    }
12  }
```

Auto-completion with nGram

Index time

	Id	Name		Name	
Input documents	<input type="checkbox"/>	1	Céline	Célin	<input type="checkbox"/> Search term
		2	Celia		
Ascii folding	<input type="checkbox"/>	Celine, Celia		Celin	<input type="checkbox"/> Ascii folding
Lowercase	<input type="checkbox"/>	celine, celia		celin	<input type="checkbox"/> Lowercase
EdgeNGram	<input type="checkbox"/>	ce cel celi celin celine		ce cel celi celin	<input type="checkbox"/> EdgeNGram
		ce cel celi celia			

Index

	Key	Document id
	ce	1, 2
	cel	1, 2
	celi	1, 2
	celin	1
	celine	1
	celia	2



Auto-completion with nGram [search analyzer]

Index time

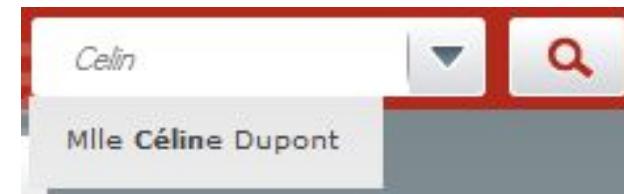
	Id	Name
Input documents	1	Céline
	2	Celia
Ascii folding		Celine, Celia
Lowercase		celine, celia
EdgeNGram		ce cel celi celin celine ce cel celi celia

Index

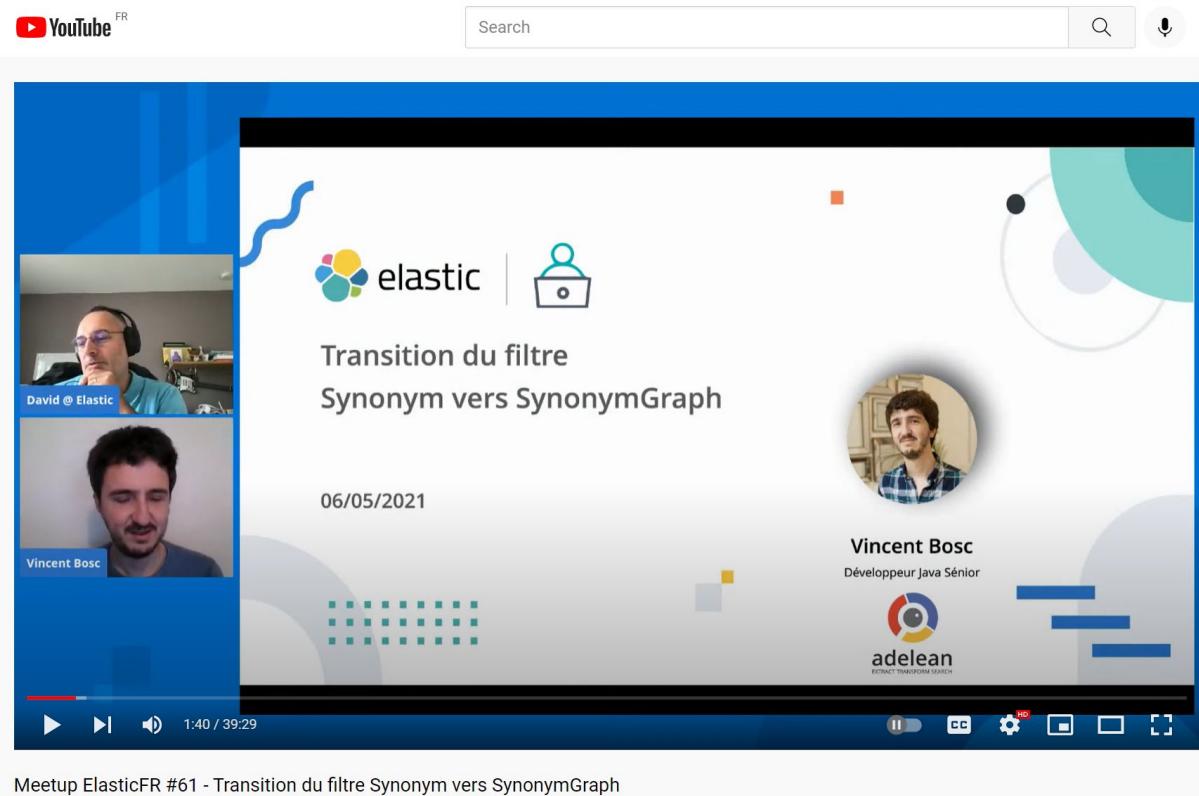
	Key	Document id
	ce	1, 2
	cel	1, 2
	celi	1, 2
	celin	1
	celine	1
	celia	2

Query time

Name	Célin	<input type="checkbox"/> Search term
	Celin	<input type="checkbox"/> Ascii folding
	celin	<input type="checkbox"/> Lowercase
	celin	<input type="checkbox"/> EdgeNGram



[Index & search analyzer]



YouTube FR

Search

David @ Elastic

Vincent Bosc

Transition du filtre
Synonym vers SynonymGraph

06/05/2021

Vincent Bosc
Développeur Java Séniior
adelean
EXTRACT TRANSFORM SEARCH

1:40 / 39:29

Meetup ElasticFR #61 - Transition du filtre Synonym vers SynonymGraph

<https://www.youtube.com/watch?v=DcjmhkeQt-I>

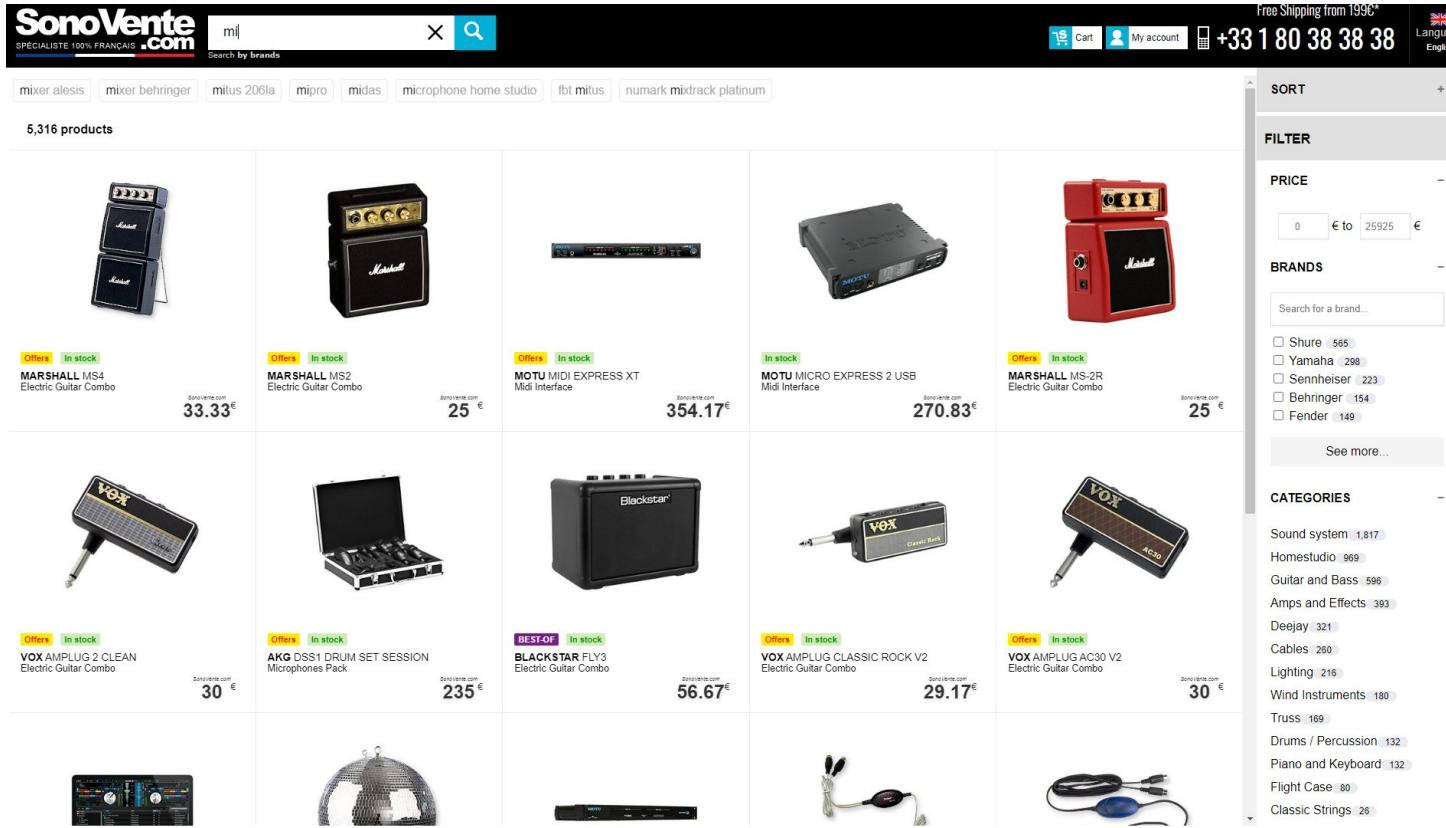


[The search_as_you_type data type]

```
1  {  
2   "mappings": {  
3     "properties": {  
4       "my_field": {  
5         "type": "search_as_you_type"  
6       }  
7     }  
8   }  
9 }
```

```
1 {  
2   "query": {  
3     "multi_match": {  
4       "query": "brown f",  
5       "type": "bool_prefix",  
6       "fields": [  
7         "my_field",  
8         "my_field._2gram",  
9         "my_field._3gram"  
10      ]  
11    }  
12  }  
13 }
```

Bring up “final” documents – User Experience ?



The screenshot shows a grid of musical equipment for sale on the SonoVente.com website. The products include various guitar amplifiers (Marshall, Vox, Blackstar), a drum set session pack (AKG), a MIDI interface (MOTU), and a DJ controller. The website has a dark header with a search bar and navigation links. The sidebar on the right contains filters for sorting, price (0 to 25925 €), brands (Shure, Yamaha, etc.), and categories (Sound system, Homestudio, etc.).

Product	Brand	Type	Price (€)
MARSHALL MS4 Electric Guitar Combo	MARSHALL	Guitar Combo	33.33
MARSHALL MS2 Electric Guitar Combo	MARSHALL	Guitar Combo	25
MOTU MIDI EXPRESS XT Midi Interface	MOTU	Midi Interface	354.17
MOTU MICRO EXPRESS 2 USB Midi Interface	MOTU	Midi Interface	270.83
MARSHALL MS-2R Electric Guitar Combo	MARSHALL	Guitar Combo	25
VOX AMPLUG 2 CLEAN Electric Guitar Combo	VOX	Guitar Combo	30
AKG DDS1 DRUM SET SESSION Microphones Pack	AKG	Microphones Pack	235
BLACKSTAR FLY3 Electric Guitar Combo	BLACKSTAR	Guitar Combo	56.67
VOX AMPLUG CLASSIC ROCK V2 Electric Guitar Combo	VOX	Guitar Combo	29.17
VOX AMPLUG AC30 V2 Electric Guitar Combo	VOX	Guitar Combo	30
DJ Controller		Controller	30
Mirror Ball		Lighting	80
Small Device		Accessories	26

The user thinks
“microphones”
but instead, they get
“mixers” and “midi
interfaces” ?

[Handle the highlighting]

```
1  {
2    "query" : {
3      "multi_match": {
4        "query": "elasticsearch",
5        "fields": [
6          "body", "blog.title", "blog.author", "blog.comment"
7        ]
8      },
9      "match": { "body": "elasticsearch" }
10    },
11    "highlight" : {
12      "number_of_fragments" : 3,
13      "fragment_size" : 150,
14      "fields" : {
15        "body" : { "pre_tags" : ["<em>"], "post_tags" : ["</em>"] },
16        "blog.title" : { "number_of_fragments" : 0 },
17        "blog.author" : { "number_of_fragments" : 0 },
18        "blog.comment" : { "number_of_fragments" : 5, "order" : "score" }
19      }
20    }
21 }
```

Auto-completion 2: bringing up “facets”

The screenshot shows a search interface with the query 'armoire' in the search bar. The results are categorized into three sections: 'Produits', 'Catégories', and 'Mots clés'.

- Produits** (1 result):
 - armoire à rideaux en bois
A129088
529,00 € HT
 - armoire haute portes battantes
A106922
435,00 € HT
 - armoire haute avec réhausse
A141375
529,00 € HT
 - Tablettes supplémentaires pour armoire
A745825
52,90 € HT
 - armoire haute avec réhausse
A755571
529,00 € HT
- Catégories** (2 results):
 - Armoire bois dans Armoire
 - Armoire métal dans Armoire
 - Armoire à compartimentage dans Armoire d'atelier
 - Armoire à portes battantes dans Armoire d'atelier
 - Armoire à portes coulissantes dans Armoire d'atelier
 - Armoire à portes transparentes dans Armoire d'atelier
- Mots clés** (3 results):
 - armoire
 - Armoire et rangement
 - armoire en bois
 - armoire à double portes
 - armoire à battantes

Solution :

Separate index holding only the needed fields (categories, brands)

Classical edge n-gram on the new index

Auto-completion 3: keywords and key phrases

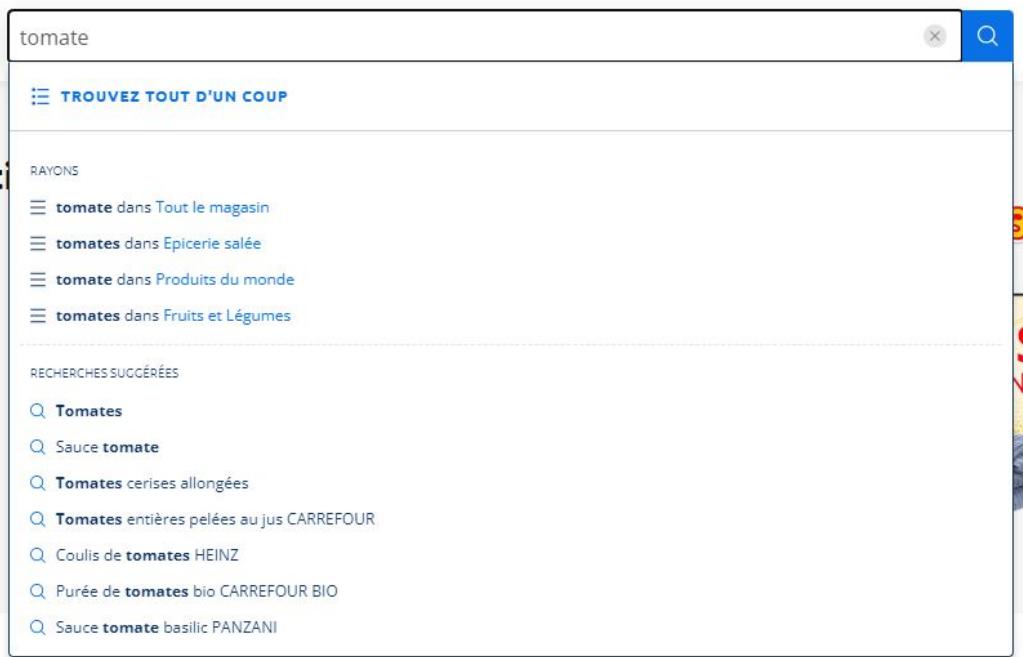
The screenshot shows a search interface for the term 'armoire'. The search bar at the top contains 'armoire'. Below it, the results are organized into three main sections: 'Produits', 'Catégories', and 'Mots clés'.

- Produits (1):** A list of products related to 'armoire'. Each item includes an image, the product name, and a reference number.
 - armoire à rideaux en bois (A129088)
 - armoire haute portes battantes (A106922)
 - armoire haute avec réhausse (A141375)
 - Tablettes supplémentaires pour armoire (A745825)
 - armoire haute avec réhausse (A755571)
- Catégories (2):** A list of categories under 'Armoire'. Each category includes an icon and a description.
 - Armoire bois dans Armoire
 - Armoire métal dans Armoire
 - Armoire à compartimentage dans Armoire d'atelier
 - Armoire à portes battantes dans Armoire d'atelier
 - Armoire à portes coulissantes dans Armoire d'atelier
 - Armoire à portes transparentes dans Armoire d'atelier
- Mots clés:** A list of keywords and key phrases.
 - armoire
 - Armoire et rangement
 - armoire en bois **3**
 - armoire à double portes
 - armoire à battantes

Solution : separate index with keywords and keyphrases

Problem : how to generate relevant keywords and keyphrases? Especially when the input data is unstructured.

Auto-completion 3: keywords and key phrases



tomate

TROUVEZ TOUT D'UN COUP

RAYONS

- tomate dans Tout le magasin
- tomates dans Epicerie salée
- tomate dans Produits du monde
- tomates dans Fruits et Légumes

RECHERCHES SUGGÉRÉES

- Tomates
- Sauce tomate
- Tomates cerises allongées
- Tomates entières pelées au jus CARREFOUR
- Coulis de tomates HEINZ
- Purée de tomates bio CARREFOUR BIO
- Sauce tomate basilic PANZANI



salaire

salaires

salaire

salaires applicable

salaire brut

salaires versés

Auto-completion 3: keywords and key phrases

Extract keywords and key phrases from a non-structured text :

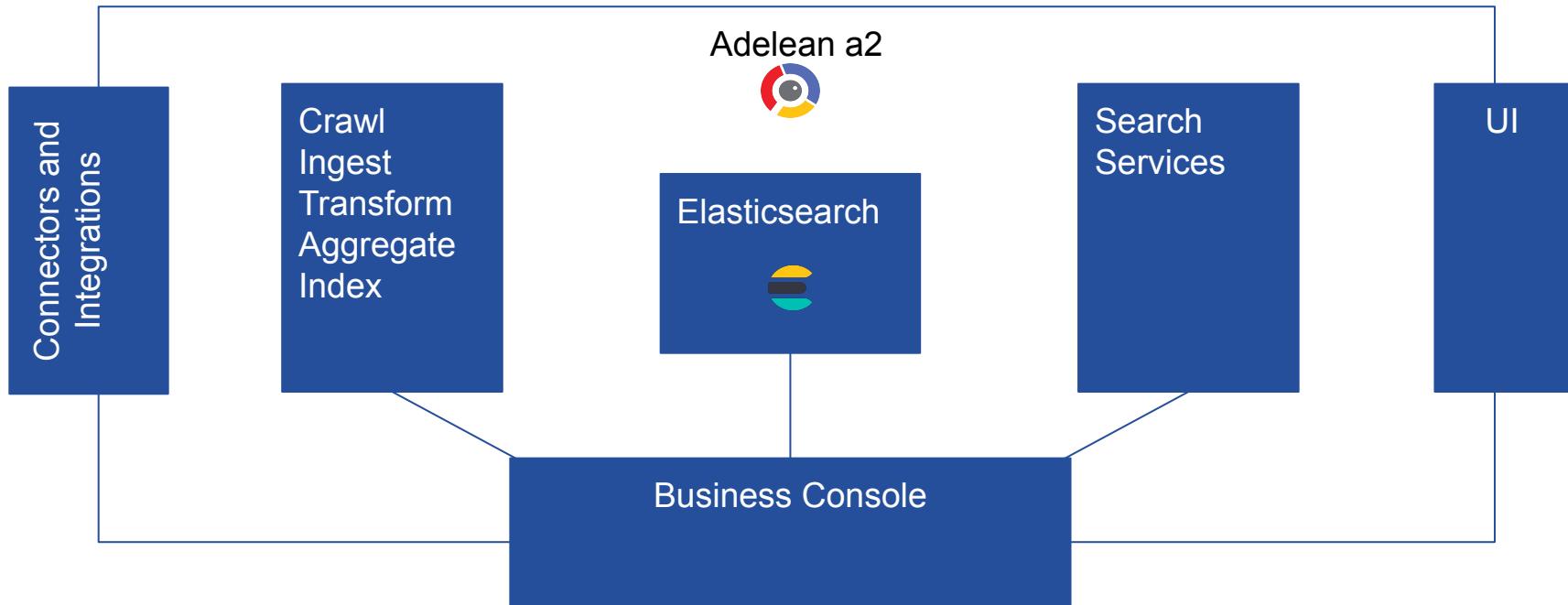
- NLP, Machine Learning
- Shingles
- Custom code and usage of analyzers to normalize the data

A community search engine to organize the Internet?

Shingle 2 \Rightarrow A community, community search, search engine, engine to, to organize, organize the, the Internet

Shingle 3 \Rightarrow A community search, community search engine, search engine *to*, engine *to* organize, *to* organize *the*, organize the Internet

[Completion suggester]



[Completion suggester]

Mapping

```
1 {  
2   "mappings": {  
3     "properties": {  
4       "suggest": {  
5         "type": "completion"  
6       },  
7       "name": {  
8         "type": "text"  
9       },  
10      "firstname": {  
11        "type": "text"  
12      }  
13    }  
14  }  
15 }
```

Document

```
1 {  
2   "suggest": [  
3     {  
4       "input": "Jean",  
5       "weight": 3  
6     },  
7     {  
8       "input": "Dujardin",  
9       "weight": 10  
10    }  
11  ],  
12  "firstname": "Jean",  
13  "name": "Dujardin"  
14 }
```

Query

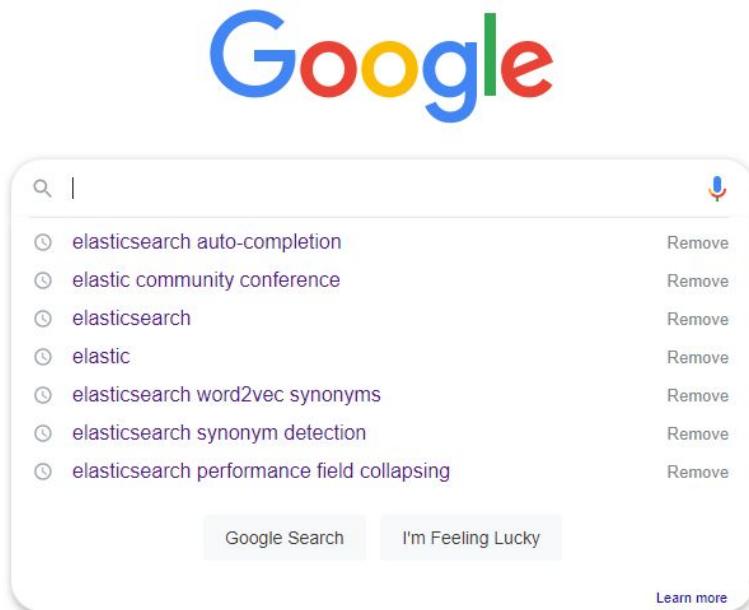
```
1 {  
2   "suggest": {  
3     "name-suggest": {  
4       "prefix": "du",  
5       "completion": {  
6         "field": "suggest",  
7         "skip_duplicates": true  
8       }  
9     }  
10    }  
11  }
```

[_msearch - the multi-search API]

```
1  GET  msearch
2  {"index":"product_auto_complete"}
3  {"query":{"match":{"title":"tomate"}}}
4  {"index":"product_categories"}
5  {"query":{"match":{"title":"tomate"}}}
6  {"index":"keywords"}
7  {"query":{"match":{"title":"tomate"}}}
8  {"index":"brands"}
9  {"query":{"match":{"title":"tomate"}}}
```

Auto-completion 4: when there is no input

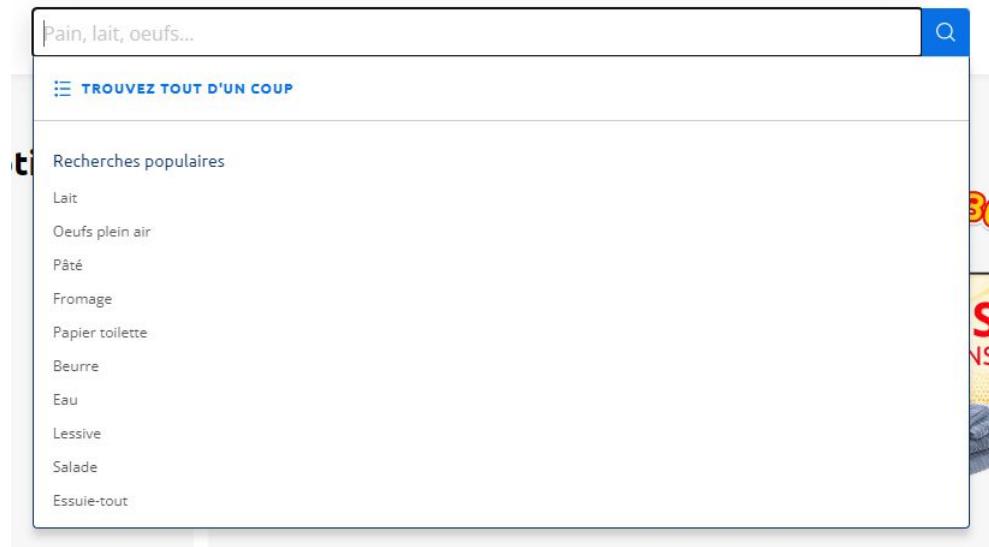
Starting with the first (second, third, more) letter?



The image shows the Google search interface. The search bar contains the text "elasticsearch". Below the search bar, a list of auto-completion suggestions is displayed, each with a small clock icon and a "Remove" link to its right. The suggestions are:

- elasticsearch auto-completion
- elastic community conference
- elasticsearch
- elastic
- elasticsearch word2vec synonyms
- elasticsearch synonym detection
- elasticsearch performance field collapsing

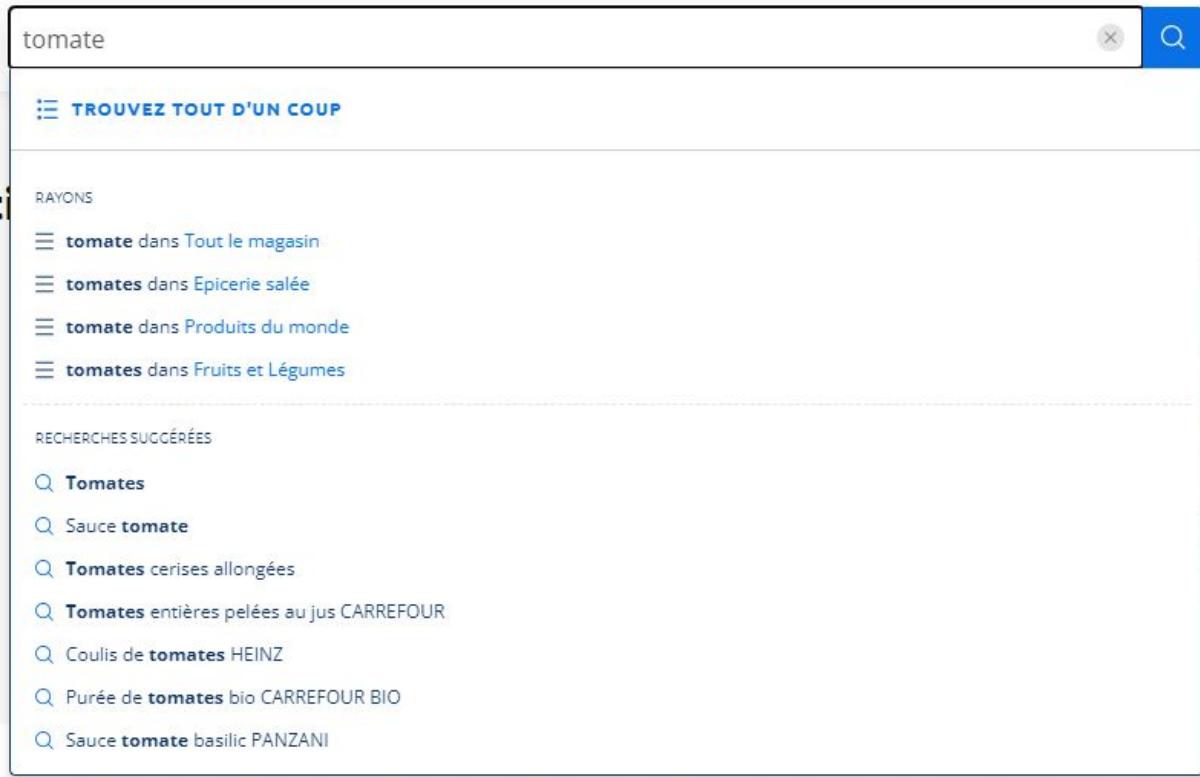
At the bottom of the interface are two buttons: "Google Search" and "I'm Feeling Lucky".



The image shows a search interface with a search bar containing the text "Pain, lait, oeufs...". Below the search bar, a section titled "TROUVEZ TOUT D'UN COUP" is displayed. Under the heading "Recherches populaires", a list of suggestions is shown:

- Lait
- Oeufs plein air
- Pâté
- Fromage
- Papier toilette
- Beurre
- Eau
- Lessive
- Salade
- Essuie-tout

Auto-completion 5: filtered suggestions



A screenshot of a search interface with the query "tomate" in the search bar. The interface includes a "TROUVEZ TOUT D'UN COUP" section, a "RAYONS" section with suggestions for different store departments, and a "RECHERCHES SUGGÉRÉES" section with various related search terms.

RAYONS

- tomate dans Tout le magasin
- tomates dans Epicerie salée
- tomate dans Produits du monde
- tomates dans Fruits et Légumes

RECHERCHES SUGGÉRÉES

- Tomates
- Sauce tomate
- Tomates cerises allongées
- Tomates entières pelées au jus CARREFOUR
- Coulis de tomates HEINZ
- Purée de tomates bio CARREFOUR BIO
- Sauce tomate basilic PANZANI

Filtered suggestions

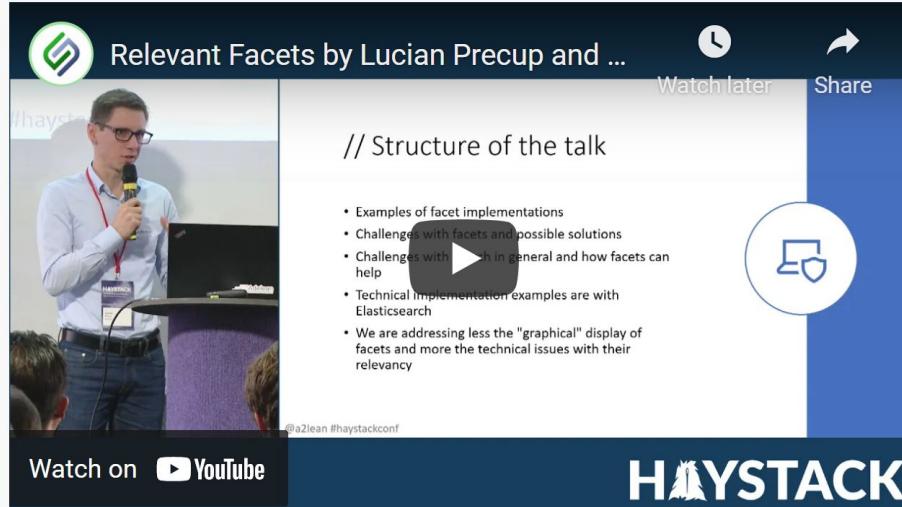


HAYSTACK

Home Schedule Tickets

Relevant Facets

Lucian Precup and Radu Pop • Back to Haystack Europe 2019



// Structure of the talk

- Examples of facet implementations
- Challenges with facets and possible solutions
- Challenges with search in general and how facets can help
- Technical implementation examples are with Elasticsearch
- We are addressing less the "graphical" display of facets and more the technical issues with their relevancy

Watch on [YouTube](https://www.youtube.com/watch?v=...)

@a2lean #haystackconf

HAYSTACK

Auto-completion 5: filtered suggestions

Products index

```
1  {  
2      "title": "Red tomatoes",  
3      "category": "Tomates",  
4      "department": "Fruits et Légumes",  
5      "price": "3"  
6  }  
7  
8  {  
9      "title": "Yellow tomatoes",  
10     "category": "Tomates",  
11     "department": "Bio et Ecologie",  
12     "price": "30"  
13 }
```

Suggestions index

```
1  {  
2      "text": "Tomates",  
3      "context": {  
4          "department": ["Fruits et Légumes"]  
5      }  
6  }  
7  
8  {  
9      "term": "Tomates",  
10     "context": {  
11         "department": ["Bio et Ecologie"]  
12     }  
13 }
```

Use the `_update` API and
increase the number of occurrences

Auto-completion 5: filtered suggestions

Suggestions dictionary

```
1  {  
2      "text": "Tomates",  
3      "context": {  
4          "product_categories_name": [  
5              "Fruits et Légumes",  
6              "Bio et Ecologie"  
7          ]  
8      },  
9      "occurrences": 81,  
10     "popularity": 16  
11 }
```

Query

```
1  {  
2      "query": {  
3          "multi_match": {  
4              "query": "tom",  
5              "fields": ["text.smartComp"]  
6          }  
7      },  
8      "sort": [  
9          {  
10             "occurrences": {  
11                 "order": "desc"  
12             }  
13         }  
14     ]  
15 }
```

Auto-completion 5: filtered suggestions

The result

A screenshot of a search interface. In the search bar at the top, the text 'tom' is typed. Below the search bar, a list of suggestions is displayed. The first suggestion is 'tom' followed by a description 'dans Tout le magasin'. The second suggestion is 'tomate' followed by 'dans Bio et Ecologie'. The third suggestion is 'tomate' followed by 'dans Fruits et Légumes'. The number '1' is displayed in a blue box on the left side of the suggestions.

- tom dans Tout le magasin
- tomate dans Bio et Ecologie
- tomate dans Fruits et Légumes

1

[Spellchecking and “did you mean ...”]

Beware of the mapping

The max_errors parameter

Terms suggester vs.
Phrase suggester

```
1  {
2   "suggest": {
3     "text" : "tomtate onde",
4     "simple_phrase" : {
5       "phrase" : {
6         "field" : "title",
7         "size" : 1,
8         "max_errors": 2
9       }
10      }
11    }
12  }
```

<https://www.elastic.co/guide/en/elasticsearch/reference/7.17/search-suggesters.html#phrase-suggester>

Thank you for your attention

Questions / Feedback / More ...

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<http://all.site>

<http://www.adelean.com>

<http://www.linkedin.com/company/adelean>

<http://www.meetup.com/fr-FR/search-and-data>

