MOZCON

2014

WELCOME!

Talking Back to Conversational Search

Justin Briggs • Getty Images

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#MozCon

Working in SEO

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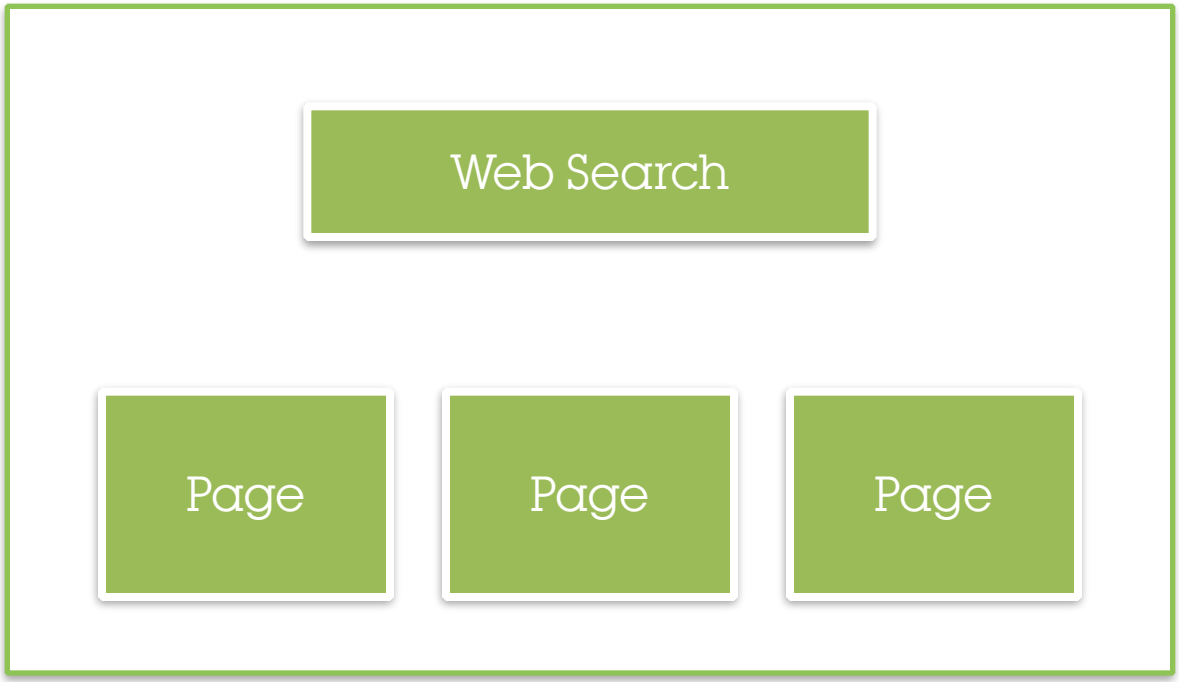
@dannysullivan conversational search, context, etc. It's just you and me and the SEOs sitting around talking penalties these days. :)

Exciting time for SEO



Search in web, against documents

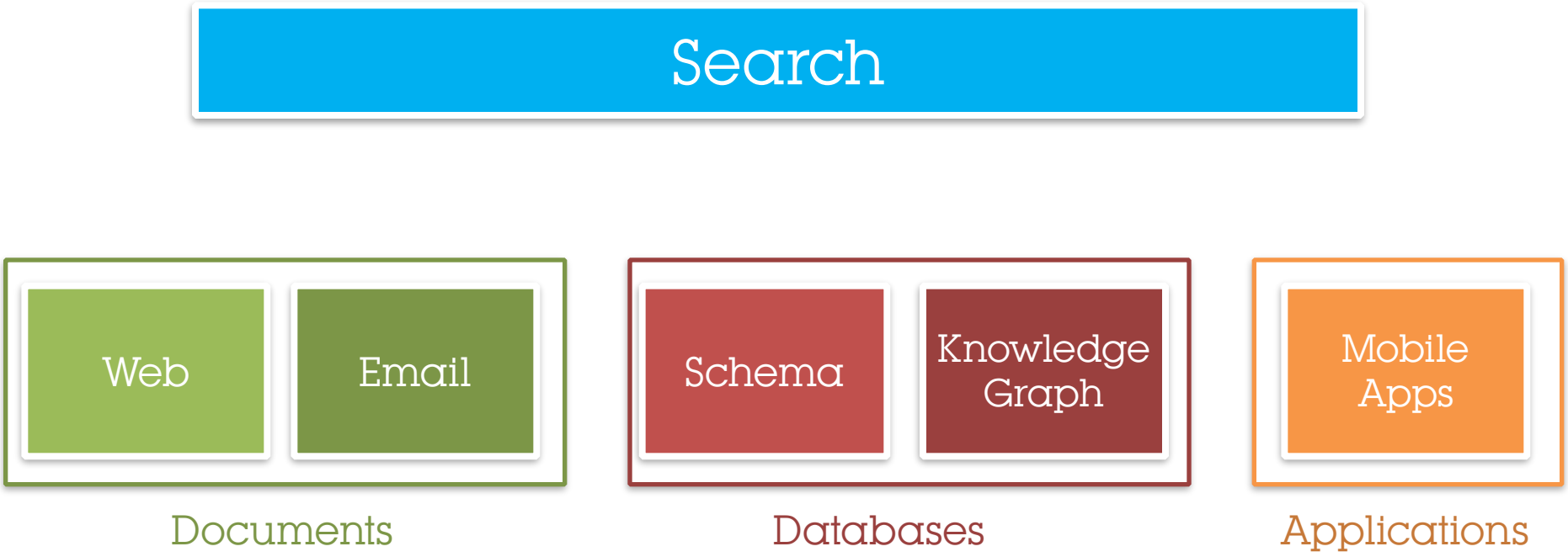
“What is limburger”
9:20
63°

“Play say it ain’t so”
9:20
63°

“Schedule a meeting with Lynn”
9:20
63°

“Navigate to grandma’s house”
g
9:20
63°

These queries never touch the web



Search against capabilities

Breaking down strings

#1 Tokenization

#2 Parts of speech tagging

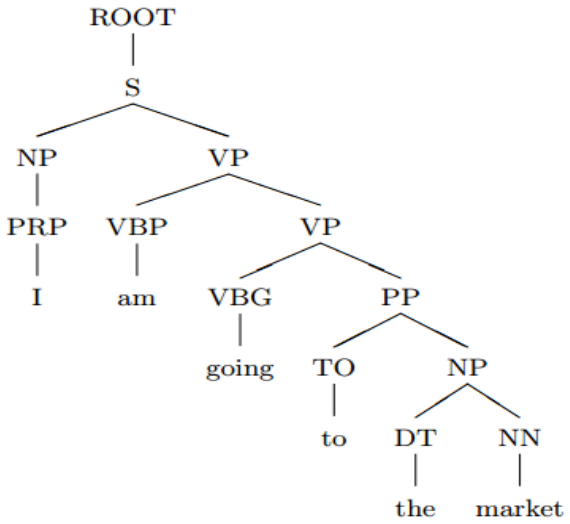
#3 Lemmatization

#4 Named entity detection

Understanding natural language

Who directed pulp fiction

#1 Tokenization



#2 Parts of speech tagging

WP: wh-pronoun
VBD: verb, past tense
NNP: noun, proper, singular

#2 Parts of speech tagging

am, are, is => be

car, cars, car's, cars' => car

#3 Lemmatization

Converting to canonical words

#3 Lemmatization

photos of Emma Watson

#4 Named entity detection

```
String tokens() =
tokenizer.tokenize("An input sample sentence.");
```

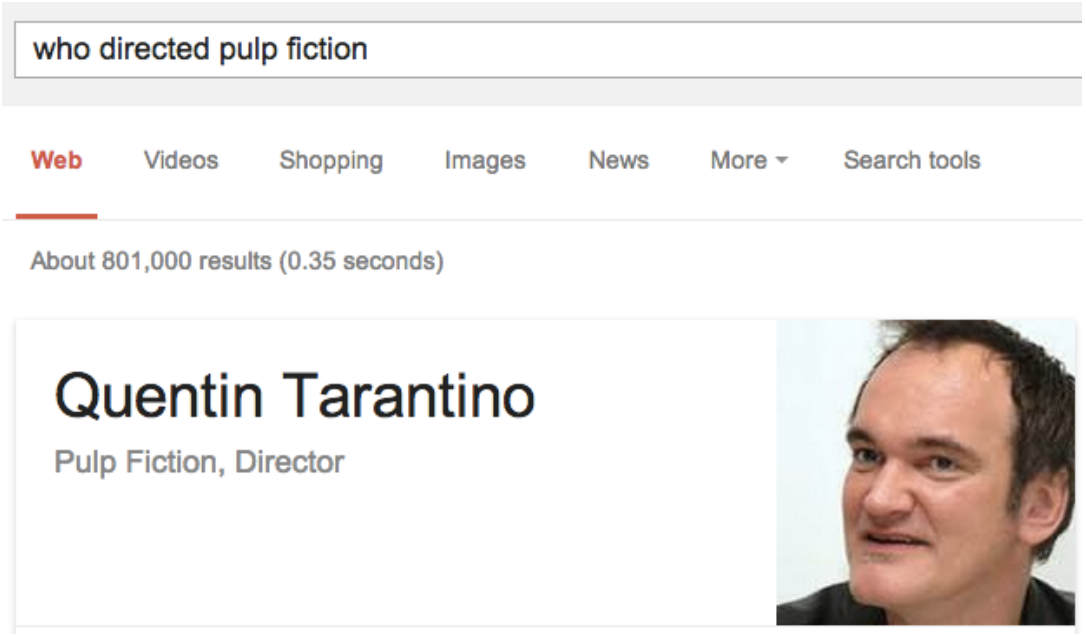
"An", "input", "sample", "sentence", "."

opennlp.apache.org

Photos of Emma Watson

Photos of <START:person>Emma Watson<END>

opennlp.apache.org



Knowledge graph capability

https://www.googleapis.com/freebase/v1/mqlread?query={<insert query here>}

Replicate using mql

Question: Who directed the movie Pulp Fiction?

```
({
   "!/film/film/directed_by": ({
      "/type/object/name": "pulp fiction",
      "/type/object/type": "/film/film"
   }),
   "/type/object/name": ({}),
   "/type/object/type": "/people/person"
})
```

Strings to things

Answer: Quentin Tarantino


```
{
 "result": (
  {
   "!/film/film/directed_by": (
    {
     "/type/object/type": "/film/film",
     "/type/object/name": "Pulp Fiction"
    }
   ),
   "/type/object/type": "/people/person",
   "/type/object/name": (
    {
     "lang": "/lang/en",
     "type": "/type/text",
     "value": "Quentin Tarantino"
    }
```


Answering queries without pages

1. Ask a question

Start by asking a question in natural language and watch the query generated:

Question: Who is the author of A Game of Thrones? Ask

This query was generated for the question "Who is the author of A Game of Thrones?"

SPARQL EDIT

```
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX foaf: <http://xmlns.com/foaf/0.1/>
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
PREFIX quepy: <http://www.machinalis.com/quepy#>
PREFIX dbpedia: <http://dbpedia.org/ontology/>
PREFIX dbpprop: <http://dbpedia.org/property/>
PREFIX dbpedia-owl: <http://dbpedia.org/ontology/>

SELECT DISTINCT ?x2 WHERE {
  ?x0 rdf:type foaf:Person.
  ?x0 foaf:name ?x2.
  ?x1 rdf:type dbpedia-owl:Book.
  ?x1 rdfs:label "A Game of Thrones"@en.
  ?x1 dbpedia-owl:author ?x0.
}
```

MQL EDIT

```
[{
    "!/book/written_work/author": [{
        "/type/object/name~=": "A Game of Thrones",
        "/type/object/type": "/book/book"
    }],
    "/type/object/name": [{}],
    "/type/object/type": "/people/person"
}]
```

quepy.machinalis.com

Emma Watson / Getty Images

PICTURE PROFILE

Emma Watson

Emma Charlotte Duerre Watson is an English actress and model. She rose to prominence playing Hermione Granger in the Harry Potter film series; she was cast as Hermione at the age of nine, having previously acted only in school plays. She starred in all eight Harry Potter films, alongside Daniel Radcliffe and Rupert Grint. Watson's work on the Harry Potter series has earned her several awards and more than £10 million. She made her modelling debut for Burberry's autumn/winter campaign in 2009. In... more

Full Name: Emma Watson

Occupation: Actor

Birthdate: 15 Apr 1990 (age 23)

Birthplace: Paris, France

Wikipedia / Freebase

Embed these images What is embed? → | View All Images →

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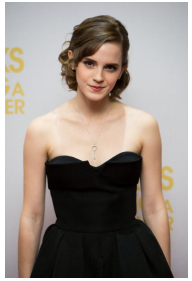
Curating entity content

Emma Watson
Born: April 15, 1990 (age 24)
From: Paris, France

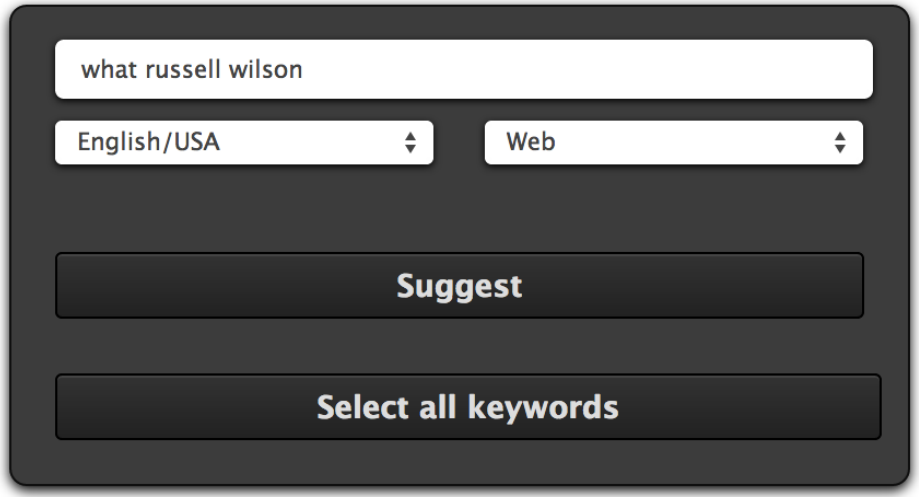


Attributes and connections

Which Brad Pitt?

Actor: actor, producer, Angelina Jolie, 1963, Fight Club
Boxer: martial arts, boxing, Olympics, 1981

Next level keyword targeting



what russell wilson eats
what russell wilson nationality
what russell wilson will be doing tonight
what's russell wilson salary
what's russell wilson 40
what's russell wilson's nickname
what does russell wilson get paid
what is russell wilson enterprises inc
what is russell wilson jersey number
what is russell wilson net worth

Find common attributes by type

<Name> (# <Number>) : <Position> for <Team> in <City>, <State>

Dynamic targeting using entity attributes

Emma Watson Photos - News, Publicity, Event, & Premiere Pictures

Seattle Seahawks Photos - Team, Player, & Fan Pictures

Justin Bieber Photos - News, Concert, & Fan Pictures

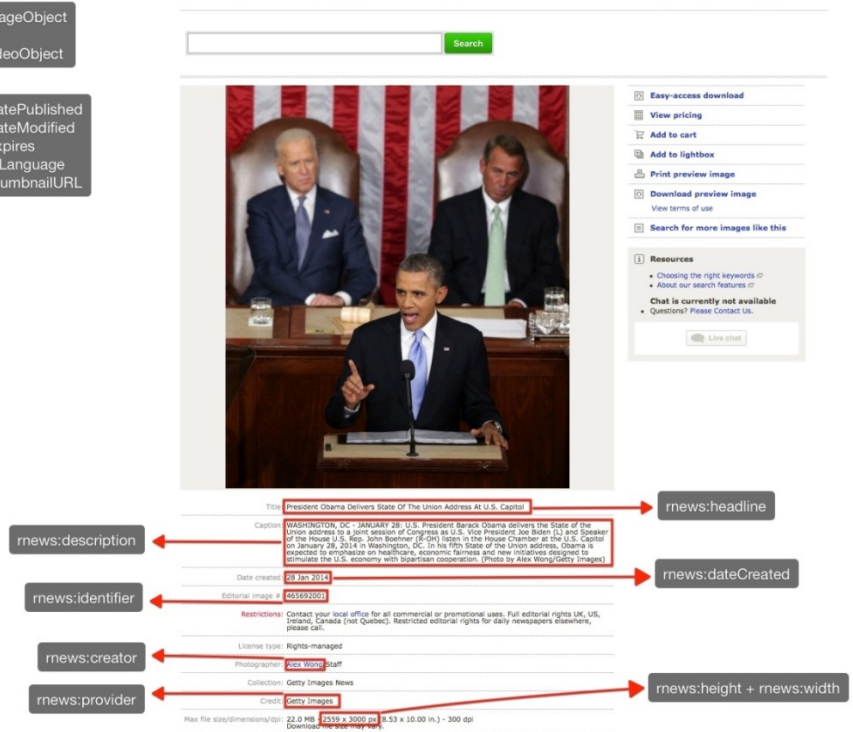
Dynamic targeting using categories

rnews:ImageObject
or
rnews:VideoObject

rnews:datePublished
rnews:dateModified
rnews:expires
rnews:inLanguage
rnews:thumbnailURL

if available:
rnews:about {rnews:Storyline}

potentially:
rnews:sourceOrganization
rnews:genre



Marking up schema

Schema takes you from web to data

```
<script type="application/ld+json">
{
 "@context": "http://schema.org",
 "@type": "Person",
 "name": "John Doe",
 "jobTitle": "Graduate research assistant",
 "affiliation": "University of Dreams",
 "url": "http://www.example.com",
 "address": {
  "@type": "PostalAddress",
  "streetAddress": "1234 Peach Drive",
  "addressLocality": "Wonderland",
  "addressRegion": "Georgia"
 }
}
</script>
```

JSON-LD: JSON-based linked data format

App Indexing

Unique single string address

<link rel="alternate" href="android-app://com.example/http/example.com/gizmos" />

Protocol

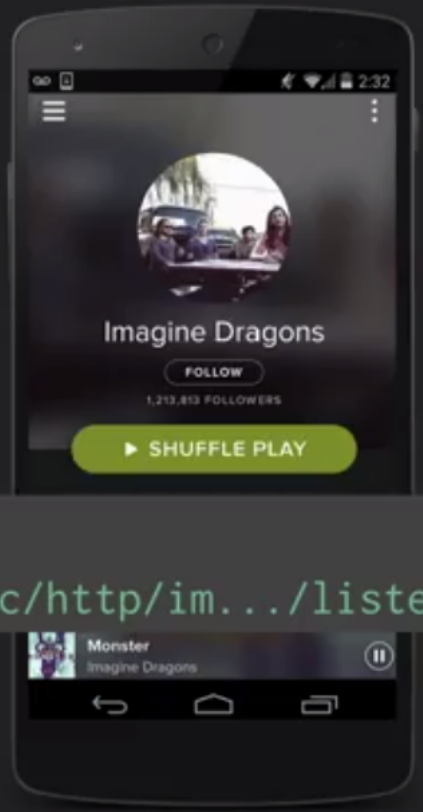
Package ID

Scheme
- http
- custom

Host Path

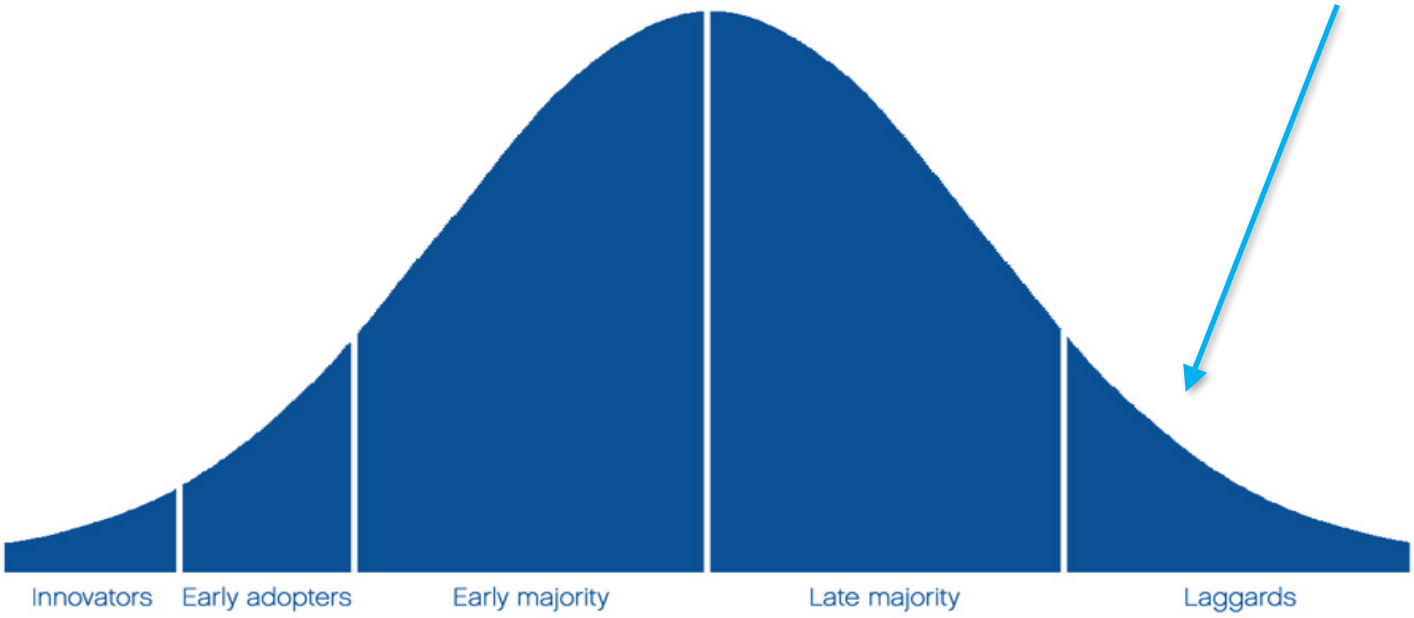
http://spotify.com/...

```
<script type="application/ld+json">
{
 "@context": "http://schema.org",
 "@type": "MusicGroup",
 "name": "Imagine Dragons",
 "potentialAction": {
  "@type": "ListenAction",
  "target": "android-app://com.spotify.music/http/im.../listen"
 }
}
</script>
```

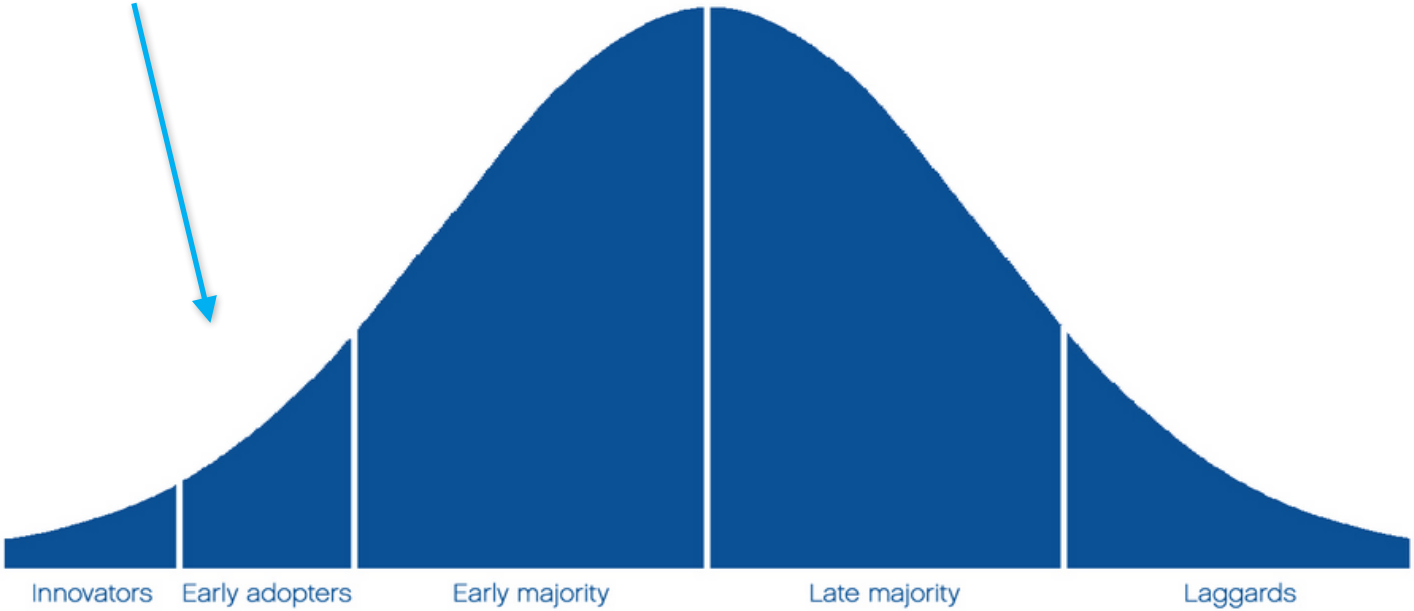


Exciting time for SEO

Feels like we're over here



We're actually over here



Getting to AI faster

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THANK YOU!

SESSION Q&A

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