



# Whatcha Watching?



## **Team members and contributions**

Kuan-Yu Chen(Leader) : Corpus processing, Elasticsearch schema definition, Knowledge base development, Algorithm implementation, UI development

Zhiheng Wang : Information Extraction, Corpus processing, Knowledge base development, Elasticsearch schema definition

Cheng Chen : UI development, Knowledge base development, Elasticsearch schema definition, Algorithm implementation

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# Purpose

The objective of this project is to build a advanced information retrieval system to support multiple search methods for people who are interested in TED Talks. The TED Talks is popular by its highly reputed speakers and their inspiring speeches. It is not only a shortcut for people who are interested in learning how to deliver a speech but also an educational material which encourage people to think out of the box. It has high impacts on people from all over the world, and many TED Talks are translated into multiple languages.



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brain plasticity



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30 results

**Michael Merzenich: Growing evidence of brain plasticity**

Neuroscientist Michael Merzenich looks at one of the secrets of the brain's incredible power: its ability to actively re-wire itself. He's researching ways to harness the brain's plasticity to enhance our skills and recover lost function.

[https://www.ted.com/talks/michael\\_merzenich\\_on\\_the\\_elastic\\_brain](https://www.ted.com/talks/michael_merzenich_on_the_elastic_brain)

**Playlist: How the brain takes care of itself (4 talks)**

If the brain takes care of the body, how does the brain take care of itself? Find out the remarkable things the brain can do to stay in tiptop shape.

Curated by TED · 4 talks

[http://www.ted.com/playlists/how\\_the\\_brain\\_takes\\_care\\_of\\_it](http://www.ted.com/playlists/how_the_brain_takes_care_of_it)

**Michael Merzenich | TED Speaker**

Michael Merzenich studies neuroplasticity -- the brain's powerful ability to change itself and adapt -- and ways we might make use of that plasticity to heal injured brains and enhance the skills in healthy ones.

Neuroscientist

[https://www.ted.com/speakers/michael\\_merzenich](https://www.ted.com/speakers/michael_merzenich)

**Playlist: How does my brain work? (15 talks)**

How exactly does the brain -- a 3-pound snarl of nervous tissue -- create inspired inventions, the feeling of hunger, the experience of beauty, the sense of self? Researchers at the edge of science explain

All

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15 results

## Talks

### Michael Merzenich: Growing evidence of brain plasticity



Neuroscientist Michael Merzenich looks at one of the secrets of the brain's incredible power: its ability to actively re-wire itself. He's researching ways to harness the brain's plasticity to enhance our skills and recover lost function.

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### Jocelyne Bloch: The brain may be able to repair itself -- with help



Through treating everything from strokes to car accident traumas, neurosurgeon Jocelyne Bloch knows the brain's inability to repair itself all too well. But now, she suggests, she and her colleagues may have found the key to neural repair: Doublecortin-positive cells. Similar to stem cells, they are extremely adaptable and, when extracted from a...

[https://www.ted.com/talks/jocelyne\\_bloch\\_the\\_brain\\_may\\_be\\_able\\_to\\_repair\\_itself\\_with\\_help](https://www.ted.com/talks/jocelyne_bloch_the_brain_may_be_able_to_repair_itself_with_help)

### Daphne Bavelier: Your brain on video games



How do fast-paced video games affect the brain? Step into the lab with cognitive researcher Daphne Bavelier to hear surprising news about how video games, even action-packed shooter games, can help us learn, focus and, fascinatingly, multitask.

[https://www.ted.com/talks/daphne\\_bavelier\\_your\\_brain\\_on\\_video\\_games](https://www.ted.com/talks/daphne_bavelier_your_brain_on_video_games)

### Mia Nacamulli: The benefits of a bilingual brain



It's obvious that knowing more than one language can make certain things easier — like traveling or

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# Observations

Conjunctive search

Doesn't support highlighting

Doesn't support phrase query

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# Project Goals

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# Project Goals

- Build a search engine that can search ted talks in different perspective
- Paying more attention on implementing the search algorithm that can rank the result of search
- Showing the information in a more relevant and overall way

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# Method

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# Overview

- Information acquisition and processing
- Search Engine
- UI display

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# Corpus acquisition and processing

Corpus from Ted.com/Talks

- Basic fields like title, speaker, transcript

Corpus from Youtube.com

- Comments
- like/dislike



Michael Merzenich | TED2004

## Growing evidence of brain plasticity

23:04

▶ 🔍 ⏵ 🔊 🗣️ ⚙️ ↗

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Neuroscientist Michael Merzenich looks at one of the secrets of the brain's incredible power: its ability to actively re-wire itself. He's researching ways to harness the brain's plasticity to enhance our skills and recover lost function.

*This talk was presented at an official TED conference, and was featured by our editors on the home page.*

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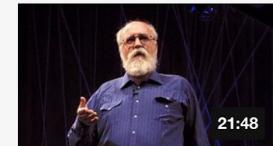
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# Growing evidence of brain plasticity



00:00:00

23:04



## Details

About the talk

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21 languages

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Neuroscientist Michael Merzenich looks at one of the secrets of the brain's incredible power: its ability to actively re-wire itself. He's researching ways to harness the brain's plasticity to enhance our skills and recover lost function.

*This talk was presented at an official TED conference, and was featured by our editors on the home page.*

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## ABOUT THE SPEAKER



**Michael Merzenich** · Neuroscientist

Michael Merzenich studies neuroplasticity -- the brain's powerful ability to change itself and adapt -- and ways we might make use of that plasticity to heal injured brains and enhance the skills in healthy ones.

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English



00:00

This machine, which we all have residing in our skulls, reminds me of an aphorism, of a comment of Woody Allen to ask about what is the very best thing to have within your skull. And it's this machine. And it's constructed for change. It's all about change. It confers on us the ability to do things tomorrow that we can't do today, things today that we couldn't do yesterday. And of course it's born stupid.

00:22

The last time you were in the presence of a baby -- this happens to be my granddaughter, Mitra. Isn't she fabulous? (Laughter) But nonetheless when she popped out despite the fact that her brain had actually been progressing in its development for several months before on the basis of her experiences in the womb -- nonetheless she had very limited abilities, as does every infant at the time of normal, natural full-term birth. If we were to assay her perceptual abilities, they would be crude. There is no real indication that there is any real thinking going on. In fact there is little evidence that there is any cognitive ability in a very young infant. Infants don't respond to much. There is not really much of an indication in fact that there is a person on board. (Laughter) And they can only in a very primitive way, and in a very limited way control their movements.



## The power of vulnerability | Brené Brown

10,321,671 views

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TED

Published on Jan 3, 2011

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Brené Brown studies human connection -- our ability to empathize, belong, love. In a poignant, funny talk at TEDxHouston, she shares a deep insight from her research, one that sent her on a personal quest to know herself as well as to understand humanity. A talk to share.

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who's here from Netflix?

3 weeks ago

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Mohamed Maher

Anybody else watching this in May 2019?

5 days ago

161 REPLY

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Karly Britton

Up until 24 hours ago, before I watched this video I made fun of people who loved so recklessly and willingly gave into the vulnerability in order to experience something beautiful. And I know now that that judgement came from a place of shame. It came from a place that had been hurt and rejected and not chosen multiple times by multiple people. It came from a voice that told itself to harden and be strong and don't let people in anymore, be your own happiness, your own Read more

2 years ago

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# Database design and indexing

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# **Runtime functionality**

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**Seeking scenarios**

**Showing UI**

**Results**

**Explanation**



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Search speaker

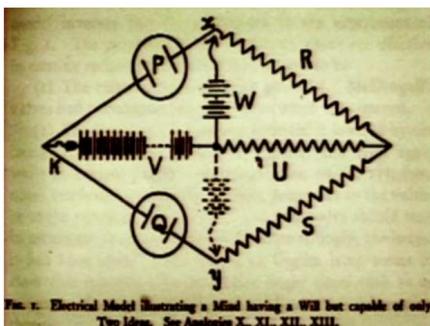
duration

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## George Dyson: The birth of the computer

Relevance: 100.00% Popularity : 36.33%

Historian George Dyson tells stories from the birth of the modern computer -- from its 17th-century origins to the hilarious notebooks of some early computer engineers.

(Posted on 2003-03-03 | 18 mins )

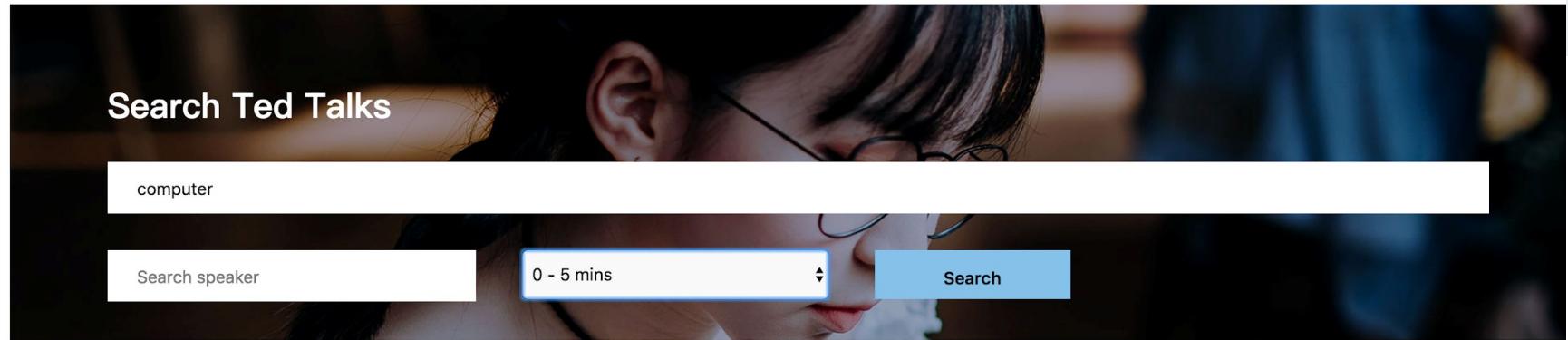
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## Shimon Schocken: The self-organizing computer course

Relevance: 95.71% Popularity : 39.48%

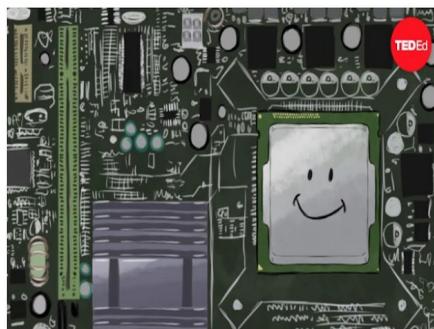
Shimon Schocken and Noam Nisan developed a curriculum for their students to build a computer, piece by piece. When



To get more accurate result, you can search with more constraints

Found 41 results. Showing 1 – 10

Next



### Kanawat Senanan: How computer memory works

Relevance: 100.00% Popularity : 5.80%

And for the computers that often act as extensions of ourselves, memory plays much the same role. Kanawat Senanan explains how computer memory works. [Directed by TED-Ed, narrated by Addison Anderson, music by Carlos Palomares].

(Posted on 2016-05-10 | 5 mins )

[https://www.ted.com/talks/kanawat\\_senanan\\_how\\_computer\\_memory\\_works](https://www.ted.com/talks/kanawat_senanan_how_computer_memory_works)



### Paul Rothemund: Playing with DNA that self-assembles

Relevance: 87.97% Popularity : 4.35%

# Search Ted Talks

computer

Paul

duration

Search

To get more accurate result, you can search with more constraints

Found 1 results. Showing 1 – 1



## [Paul Rothemund: Playing with DNA that self-assembles](#)

Relevance: 100.00%      Popularity : 100.00%

Paul Rothemund writes code that causes DNA to arrange itself into a star, a smiley face and more. Sure, it's a stunt, but it's also a demonstration of self-assembly at the smallest of scales -- with vast implications for the future of making things.

(Posted on 2007-03-03 | 5 mins )

[https://www.ted.com/talks/paul\\_rothemund\\_casts\\_a\\_spell\\_with\\_dna](https://www.ted.com/talks/paul_rothemund_casts_a_spell_with_dna)

## Paul Rothemund: Playing with DNA that self-assembles



Inspiring  
Beautiful  
Long-winded  
Ingenious  
Confusing  
OK  
Fascinating  
Unconvincing  
Jaw-dropping  
Obnoxious  
Funny  
Informative  
Courageous

There's an ancient and universal concept that words have power, that spells exist, and that if we could only pronounce the right words, then -- whoosh! -- you know, an avalanche would come and wipe out the hobbits, right? So this is a very attractive idea, because we're very lazy, like the Sorcerer's Apprentice, or the world's greatest computer programmer. This idea has a lot of traction with us. We love the idea that words, when pronounced, are little more than pure information, but they evoke physical action in the real world that helps us do work. So, of course, with lots of programmable computers and robots around, this is an easy thing to picture. How many of you know what I'm talking about? Raise your right hand. How many

Paul Rothemund writes code that causes DNA to arrange itself into a star, a smiley face and more. Sure, it's a stunt, but it's also a demonstration of self-assembly at the smallest of scales -- with vast implications for the future of making things.

Recommended for you:



## Omar Ahmad: Political change with pen and paper



Want your local politician to pay attention to an issue you care about? Send a monthly handwritten letter, says former mayor Omar Ahmad -- it's more effective than email, phone, or even writing a check. He shares four steps to writing a letter that works.

What people say on Youtube:

Great presentation. Keep it coming. Thanks. -- David Sunn

Mr. Ahmad, our Mayor, passed away today. It was like a sucker punch. It hurts because it was so unexpected and he was so young. He was an inspirational citizen and worked diligently and intelligently for our community. It definitely hurts that he is no longer here. This is the first time I've seen this talk. He was like this, humorous but with a purpose in his communication and a problem solver. I'm sorry for his family's loss and our community's loss. -- Rhon

this is how we catch the bull by the horns btw bull = politician : D -- ahmeds027



One of the things that defines a TEDster is you've taken your passion, and you've turned it into stewardship. You actually put action to the issues you care about. But what you're going to find eventually is you may need to actually get elected officials to help you out. So, how do you do that? One of the things I should probably tell you is, I worked for the Discovery Channel early in my career, and that sort of warped my framework. So, when you start to think about politicians, you've got to realize these are strange creatures. Other than the fact that they can't tell directions, and they have very strange breeding habits, how do you actually work with these things? (Laughter) What we need to understand is: What drives the political creature? And there are two things that are primary in a politician's heart: One is reputation and influence. These are the primary tools by which a politician can do his

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## Explanation

Parsing the corpus according to the fields we need and build index of the corpus. Using elasticsearch to do the query and return the result, containing parameters of the page, to frontend.

According to the different weight of the fields, allocate different weight to the fields. Highlighting keywords of query and return parts of the results.

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# Lessons learned

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## What worked well

- Users can search relevant ted talks as they wish, a list of ranked talks are displayed as the result
- Effectively recommend users ted talks related to what they search
- Various fields are shown as the relevant information about the specific talk video

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## **What didn't work as well as planned (and why)**

- The first one is to do a query correction which acts like what Google does. However, we do not have a large database and server to record the users habits.
- The second way is to apply natural language process (NLP) knowledge of sentiment analysis to rank the comments from youtubers and get the most representative two with one expresses a positive review and another expresses a negative review. However, it is not easy since this task need to classify not only sentiment but also the quality of the reviews.