Tip of the Tongue (TOT) Known-Item Retrieval Track

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UNC

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Google

Bhaskar Mitra
Microsoft

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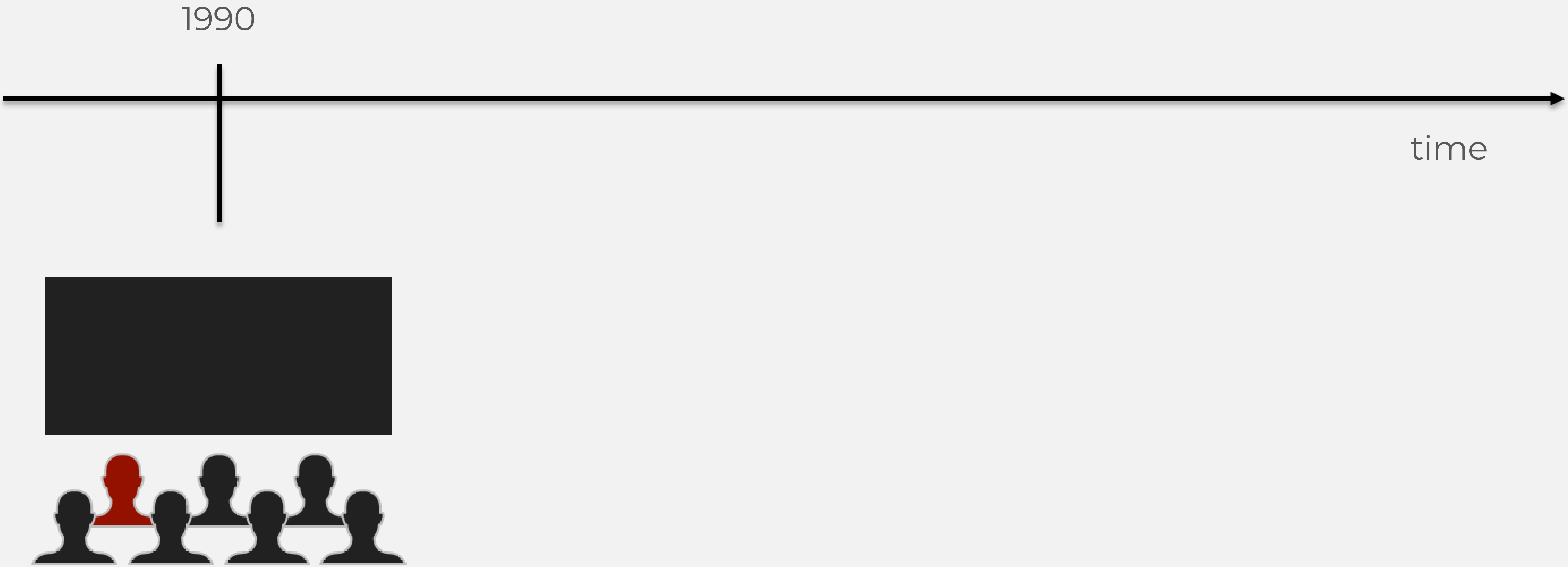
UvA

Outline

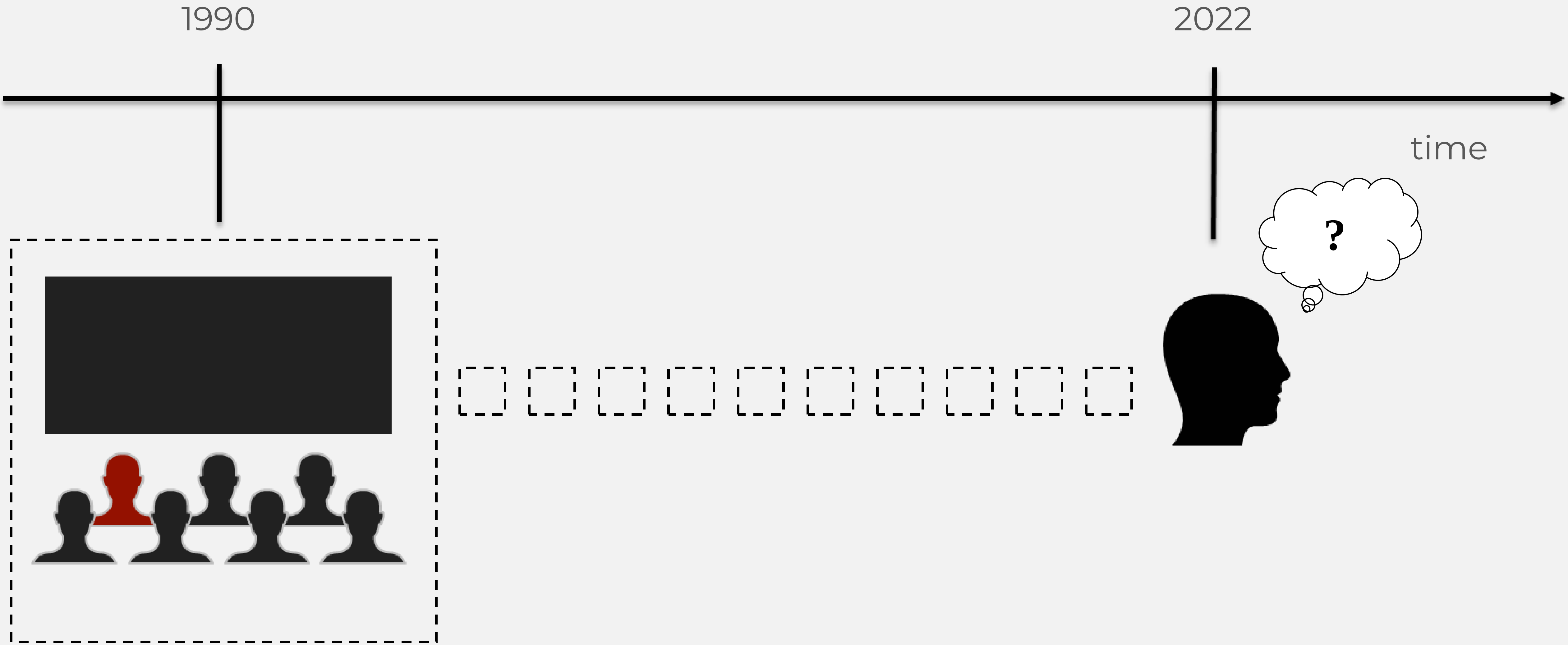
- Background
- Challenges & Approaches
- Broader Impacts

Background



1990

time


1990
2022
time
?

Tip of the Tongue Known-Item Retrieval

DEFINITION

- An **identification task** where the searcher has previously experienced or consumed an item but **cannot recall a reliable identifier**.

- Named after the psychological state of not being able to recall a specific word but being able to recall words of similar form or meaning.

Tip of the Tongue Known-Item Retrieval

LONG-TERM MEMORY

- Degrades over time
- **Semantic memories** about the information item
- **Episodic memories** about previous engagements with the item
- Important in other contexts: personal information management

Tip of the Tongue Known-Item Retrieval

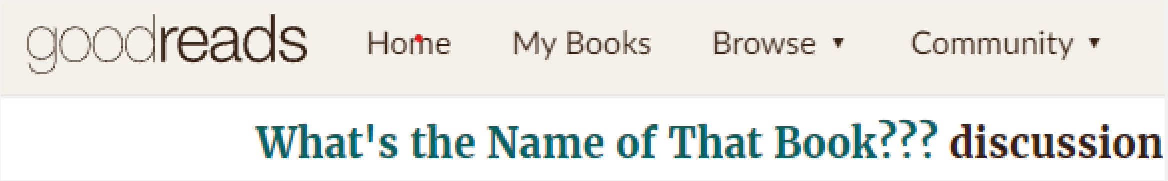
MOTIVATION

- Existing search systems are ineffective in resolving TOT information needs.

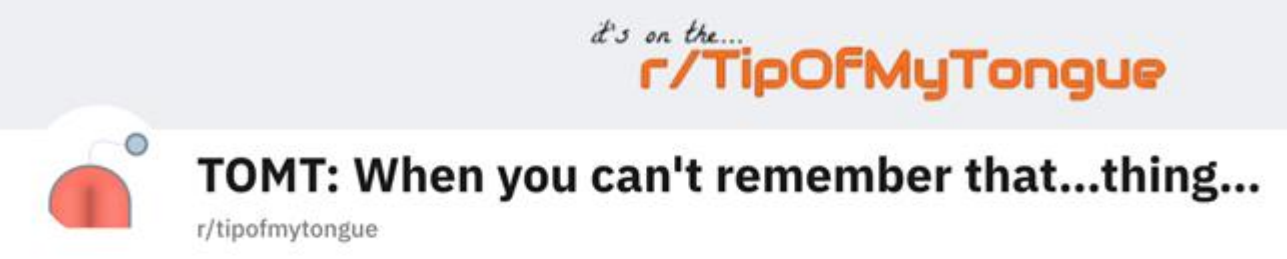
WatZatSong?

I Remember This Movie...

Remember a scene from a movie, but not the title? Here's where you can get help, and help others recover forgotten movie memories.


goodreads
Home
My Books
Browse ▾
Community ▾

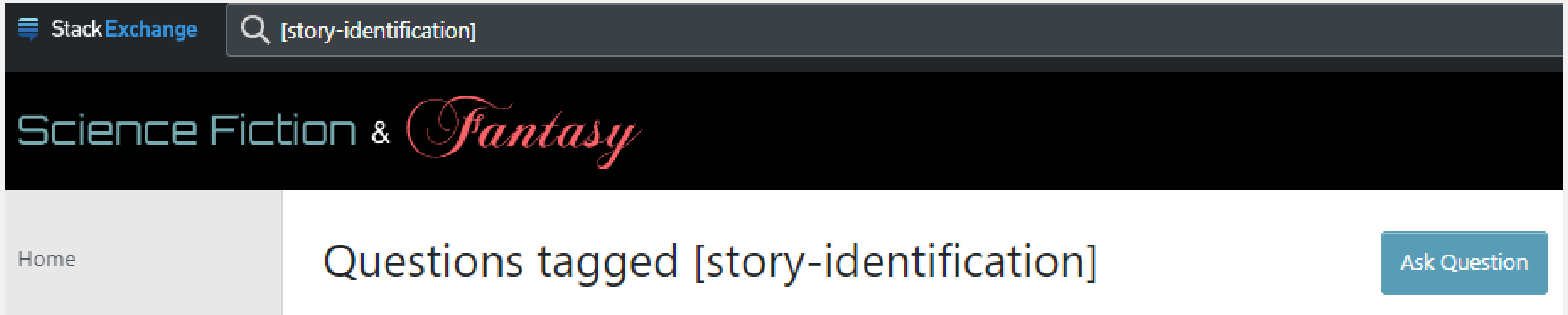
What's the Name of That Book??? discussion


it's on the...
r/TipOfMyTongue

TOMT: When you can't remember that...thing...

r/tipofmytongue

NameThatMovie?


StackExchange
[story-identification]
Science Fiction & Fantasy
Home
Ask Question

Questions tagged [story-identification]

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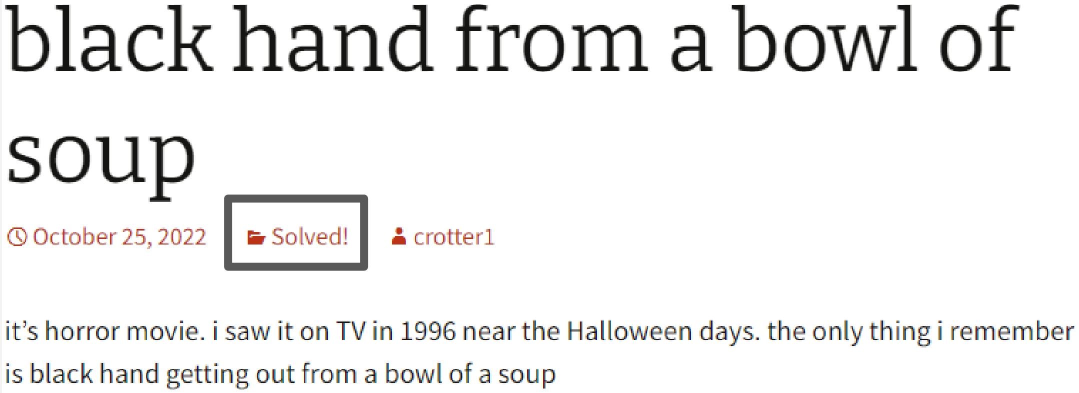


black hand from a bowl of soup

October 25, 2022 | Solved! | crotter1

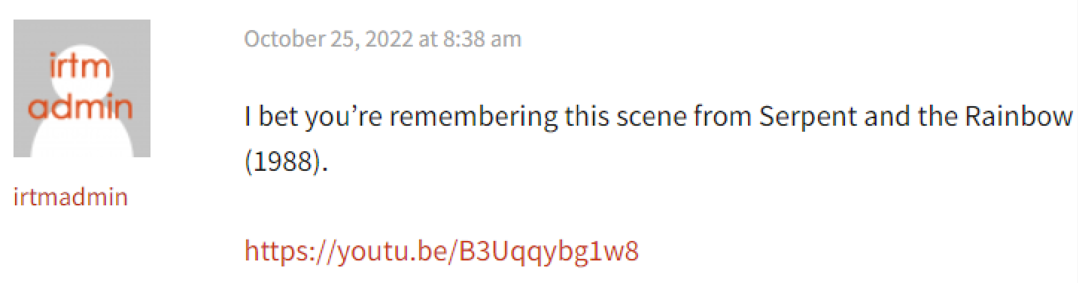
it's horror movie. i saw it on TV in 1996 near the Halloween days. the only thing i remember is black hand getting out from a bowl of a soup

question

⋮

Q&A, potential answers

⋮



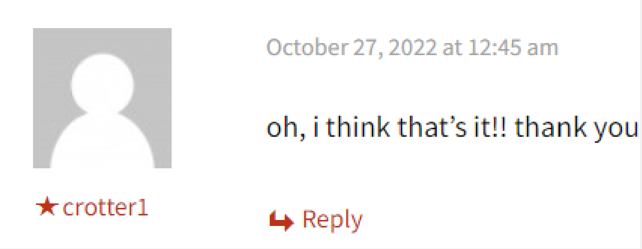
irtmadmin

October 25, 2022 at 8:38 am

I bet you're remembering this scene from Serpent and the Rainbow (1988).

https://youtu.be/B3Uqqybg1w8

correct answer



★crotter1

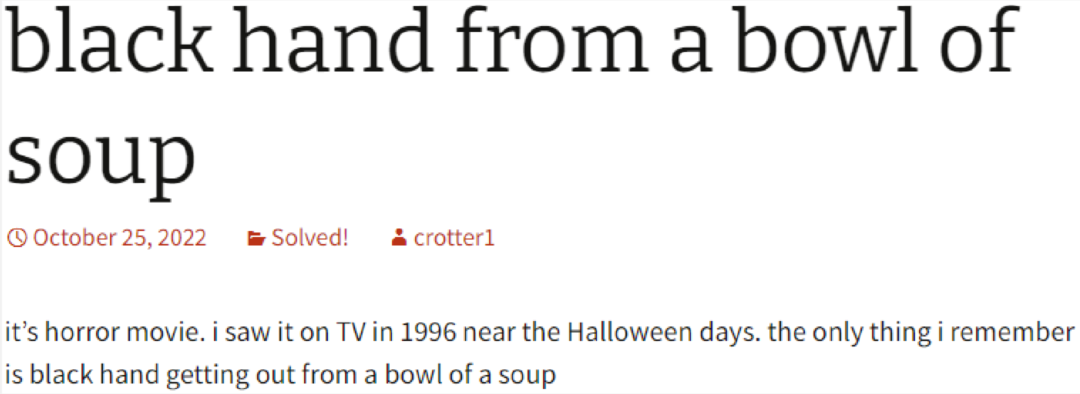
October 27, 2022 at 12:45 am

oh, i think that's it!! thank you

Reply

confirmation!

input



black hand from a bowl of soup

October 25, 2022 Solved! crotter1

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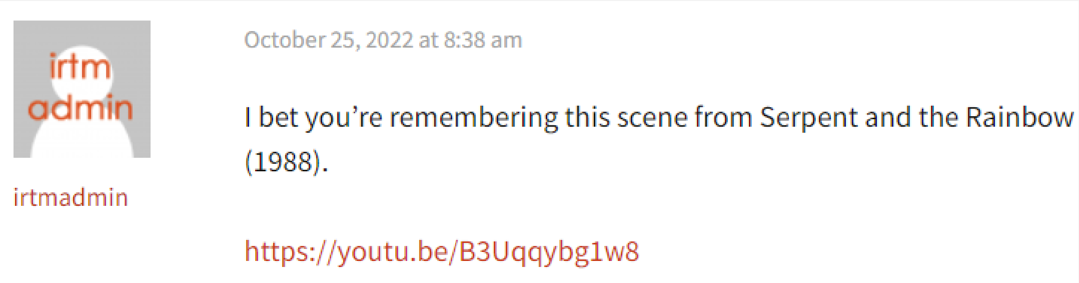
System

output



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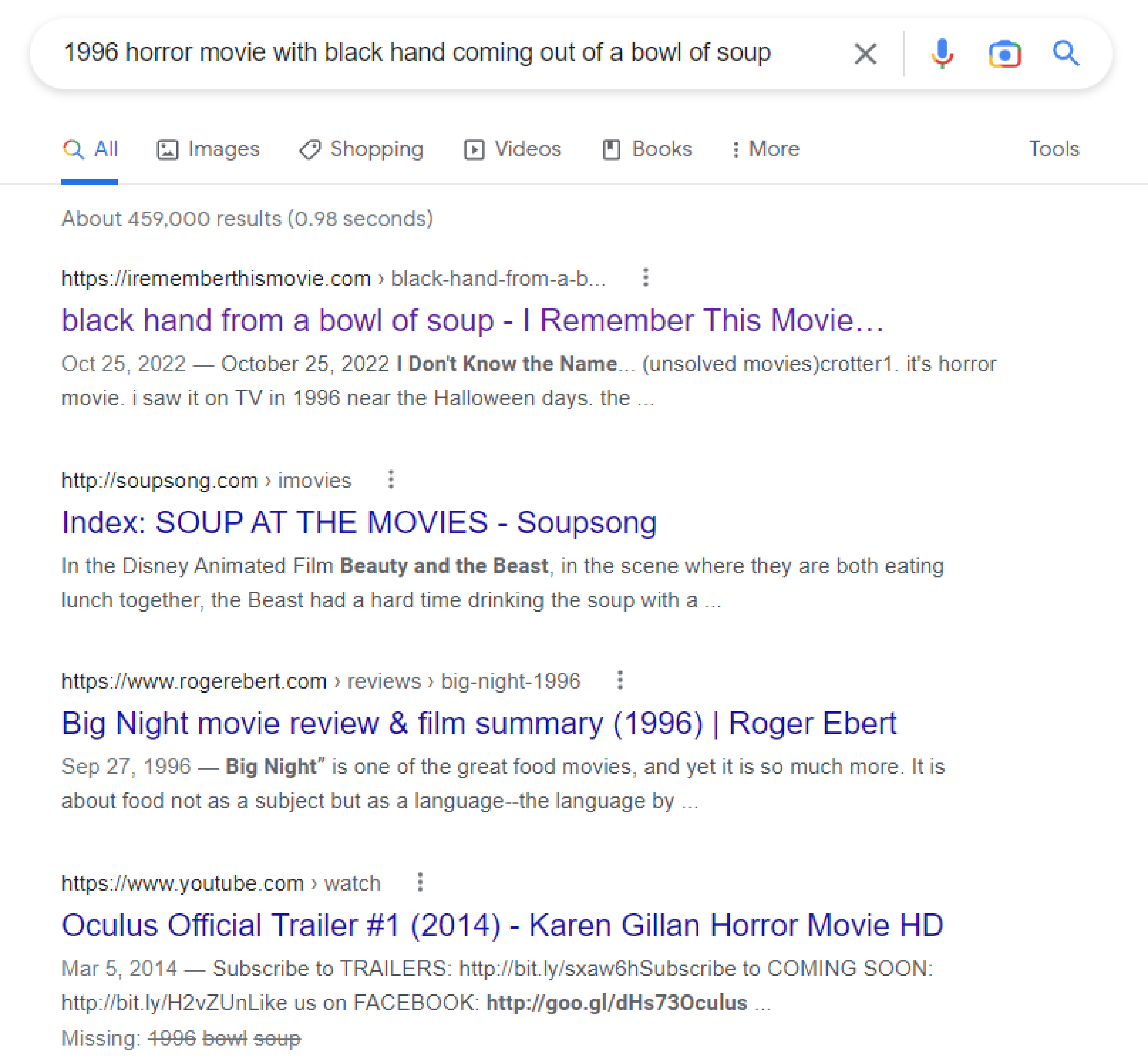


1996 horror movie with black hand coming out of a bowl of soup

About 459,000 results (0.98 seconds)

https://irememberthismovie.com › black-hand-from-a-b...

black hand from a bowl of soup - I Remember This Movie...

Oct 25, 2022 — October 25, 2022 **I Don't Know the Name**... (unsolved movies)crotter1. it's horror movie. i saw it on TV in 1996 near the Halloween days. the ...

http://soupsong.com › imovies

Index: SOUP AT THE MOVIES - Soupsong

In the Disney Animated Film **Beauty and the Beast**, in the scene where they are both eating lunch together, the Beast had a hard time drinking the soup with a ...

https://www.rogerebert.com › reviews › big-night-1996

Big Night movie review & film summary (1996) | Roger Ebert

Sep 27, 1996 — **Big Night"** is one of the great food movies, and yet it is so much more. It is about food not as a subject but as a language--the language by ...

https://www.youtube.com › watch

Oculus Official Trailer #1 (2014) - Karen Gillan Horror Movie HD

Mar 5, 2014 — Subscribe to TRAILERS: http://bit.ly/sxaw6hSubscribe to COMING SOON: http://bit.ly/H2vZUnLike us on FACEBOOK: **http://goo.gl/dHs73Oculus** ...

Missing: ~~1996~~ ~~bowl~~ ~~soup~~

What do TOT requests look like?

Jaime Arguello, Adam Ferguson, Emery Fine, Bhaskar Mitra, Hamed Zamani, and Fernando Diaz. 2021. **Tip of the Tongue Known-Item Retrieval: A Case Study in Movie Identification.** In Proceedings of the 2021 Conference on Human Information Interaction and Retrieval (CHIIR '21). Association for Computing Machinery, New York, NY, USA, 5–14.

What do TOT Information Requests Look Like?

DATA & ANALYSIS

- 2,071 questions posted to “I Remember This Movie” (2013- 2018)

- Qualitative sentence-level analysis

What do TOT Information Requests Look Like?

CONTENT ANNOTATIONS (i.e., SEMANTIC MEMORIES)

- character
- **scene**
- object
- category
- location type
- **plot summary**
- release date
- genre/tone
- visual style
- language
- regional origin
- specific location
- **quote/dialogue**
- real person
- camera angle
- singular timeframe
- multiple timeframe
- fictional person
- actor nationality
- target audience
- compares music
- specific music

What do TOT Information Requests Look Like?

CONTEXT ANNOTATIONS (i.e., EPISODIC MEMORIES)

- **temporal context**
- physical medium
- cross media
- contextual witness
- **physical location**
- **concurrent events**

What do TOT Information Requests Look Like?

OTHER ANNOTATIONS (i.e., INTERESTING PHENOMENA)

- **previous search**
- social
- **uncertainty**
- opinion
- emotion
- **relative comparison**

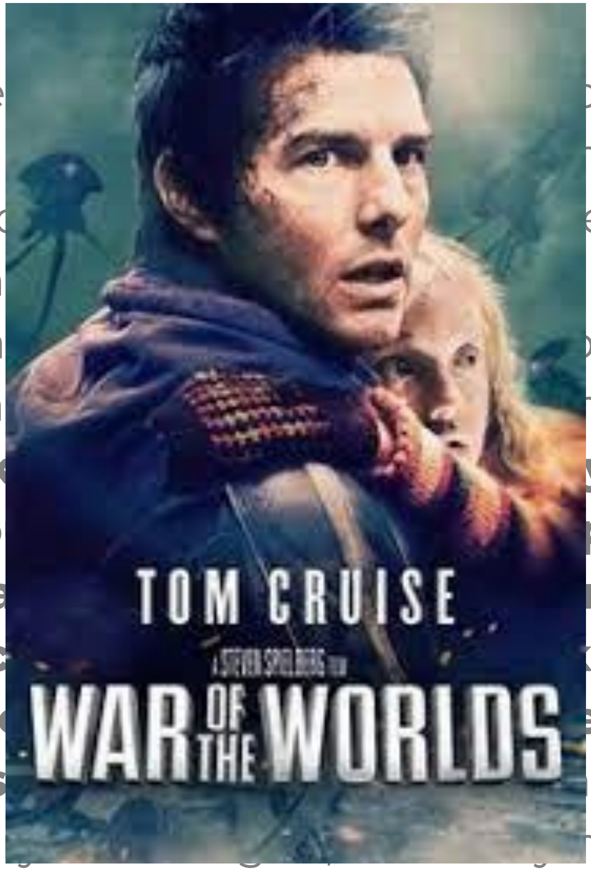
What do TOT Information Requests Look Like?

EXAMPLE

Ok so I don't really remember anything but one scene, so I will try to give as much detail as I can. I saw this movie when I was very young and only remember this scene because (from what I remember) I don't think I actually watched most of the movie because I found it **pretty scary**, so it is probably **not a children/family movie**. I think I watched it in **2006** (mid-end of the year probably) and it was on a tv in someone's house, so it was old enough to be released on tv/dvd (not still in cinemas). It was in English and colour I'm pretty sure. **So this scene: There was a (or multiple) giant robot-like things and I think they were sort of sphere shaped. It was destroying a city and going around picking people up (possible killing them?) in giant net-like things i think. There was a father and daughter (i think it was a daughter) and they ended up getting separated because the father got picked up by the robot thing. When the robot thing was picking people up there was a lot of red liquid stuff (quite possibly blood, but maybe something else?). In the end I think the father made it back to the daughter.** And that is all I remember, sorry if it is vague, but really hope someone can help.

What do TOT Information Requests Look Like?

EXAMPLE



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saw this movie … nd … at I
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probably **not a** … th … probably)
and it was on a … it … still in
cinemas). It wa … n p … **ltiple)**
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and going aro … pos … s i think.
There was a fa … nk … ing
separated bec … ked … ng was
picking peopl … ed liquid stuff (quite possibly blood, but maybe
something els … e father made it back to the daughter. And that is all I
remember, sor … ope someone can help.

What do TOT Information Requests Look Like?

CONTENT CODES: genre/tone

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What do TOT Information Requests Look Like?

CONTENT CODES: release date

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What do TOT Information Requests Look Like?

CONTENT CODES: language, visual production

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What do TOT Information Requests Look Like?

CONTENT CODES: scene, plot, object, character, location type

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What do TOT Information Requests Look Like?

CONTEXT CODES: temporal context, physical medium

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What do TOT Information Requests Look Like?

OTHER CODES: social nicety, (un)certainty, negation

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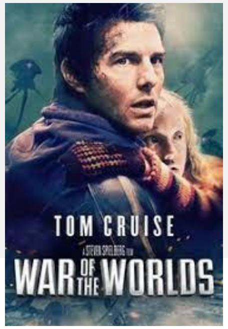
Challenges & Opportunities



Challenges

(1) Ignoring social niceties

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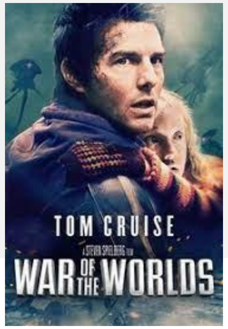

Challenges

(2) Leveraging contextual (episodic) memories

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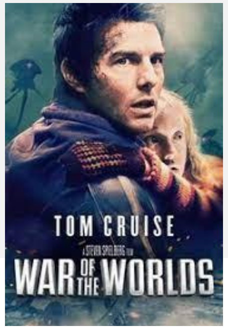

Challenges

(3) Leveraging semantic memories about: metadata

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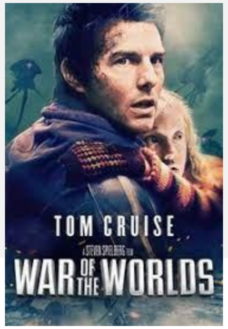

Challenges

(4) Leveraging semantic memories about: scenes

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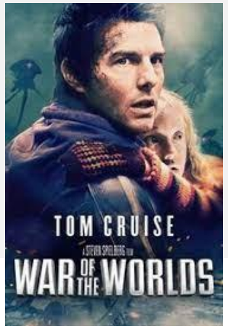

Challenges

(5) Leveraging semantic memories about: plot

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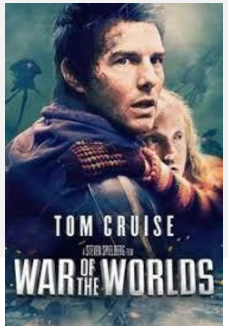

Challenges

(6) Modeling levels of (un)certainty

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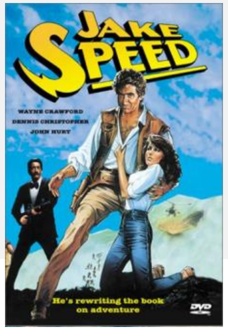
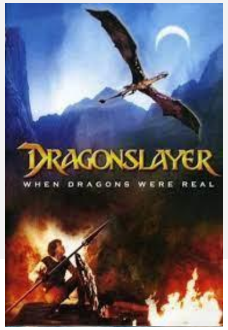

JAKE SPEED
WAYNE CRAWFORD
DENNIS CHRISTOPHER
JOHN HURT
He's rewriting the book on adventure
DVD

Challenges

(7) Modeling exclusion criteria

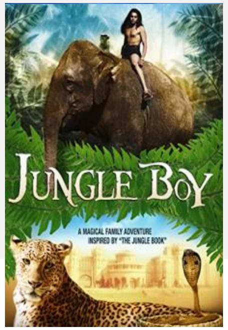
A girl is kidnapped. Her somewhat senile grandfather writes to various “adventurers” from books like “Mack Bolan” and “The Executioner” thinking them to be real. Surprisingly, one responds and comes to search for the girl; consisting of the rugged adventurer and his partner who will later write a book on the adventure. The girl’s sister goes along on the search. Comedy ensues. Think this was back in the 90s. I thought it was Bill Pullman but nothing like this is listed in his credentials.



Challenges

(8) Relative movie comparisons (multi-hop reasoning)

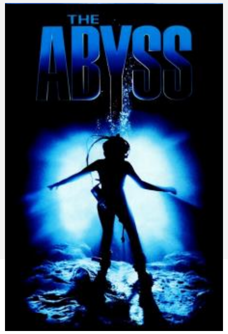
Hi, new to this site, but a memory of a movie I saw in ~1986-1988 when I was 3 or four years is still bugging me. My only recollection of this movie that it was a high fantasy, sword & sorcery type movie that was on network television (I didn't have cable) during daylight hours. All I remember is a man in a dark red cavern with a sword talking to what looked like a very large dragon or monster which made either a deep booming sound or actually talked to him. The monster appeared to be several stories tall, and the scene took place toward the very end of the movie, because i remember it ended soon after. I believe it was the climax of the movie. I know it is not the movie "Legend", but it may be similar to that. Thanks for your help, this has been bothering me for 25+ years.



Challenges

(9) Relative attribute comparisons (multi-hop reasoning)

This is a movie I barely remember watching when I was visiting my dad. I believe it was a movie made for TV. I was about 7 or 8 years old at the time. I think it was made in the 90's and it was in color. Even though the movie took place in India or some place like that, it was in English. The only scene I remember vividly is a scene where some guy wearing a turban says a prayer to a gold statue of a giant cobra. The statue comes to life and says something intimidating. The turban guy's bodyguard (a bald guy wearing an eye patch) shoots at the gold cobra with a rifle, but gets eaten. The Cobra then turns the turban guy into a pig. The other thing I remember about this is the main character. He looked similar to Tarzan, but he wore pants and had some kind of weapon strapped across his back.



Challenges

(10) Dealing with false memories

There was this movie, and unfortunately I remember very little about it. I remember seeing it at around 2001-2003-ish, so it should be a film that was released before that time. It was definitely in English; at least I think so. Also, it was in colour, if that helps. On the VCR cover, all that I remember is a guys face, and blue background, probably the ocean? The only things that I remember are that there was something to do with water, and by this, I mean like an ocean, or maybe it was something like a submarine or an oil rig, and I think that the main character was a guy, who was either a ghost, or a silvery liquid metally alien/liquidy thing, that looks a bit like the T-1000 in Terminator 2. Sorry for the lack of detail, and please help me remember this!

Challenges

(11) Not all items are equally “forgettable”

TOT Movies	Wikipedia Views
Drama 337 (17.10%)	Drama 1,228,488 (22.12%)
Horror 258 (13.09%)	Comedy 612,625 (11.03%)
Comedy 239 (12.13%)	Action 546,690 (9.84%)
Thriller 178 (9.03%)	Adventure 397,791 (7.16%)
Adventure 141 (7.15%)	Thriller 293,537 (5.29%)
Fantasy 127 (6.44%)	Romance 291,185 (5.24%)
Mystery 98 (4.97%)	Crime 271,426 (4.89%)
Action 115 (5.83%)	**Horror 201,483 (3.63%)**
Crime 99 (5.02%)	Documentary 189,109 (3.41%)
Mystery 98 (4.97%)	Sci-Fi 182,760 (3.29%)

Possible Approaches

- **Combining perspectives (fielded retrieval):**
    - metadata (e.g., IMDB)
    - plot summaries (e.g., Wikipedia)
    - audience response (e.g., reviews)
    - scene descriptions (e.g., Internet Movie Script DB)
- **Leveraging our coding scheme to:**
    - ignore certain sentences
    - treat them differently (e.g., prioritizing specific fields)
- **Using query-performance predictors to reduce TOT requests**

Broader Impacts

- Our qualitative coding scheme will provide insights about **phenomena that current algorithms struggle with**

- Supporting TOT needs is important in **other re-finding contexts**:
  - personal information management (e.g., email re-finding)
  - life-logging
  - virtual environments