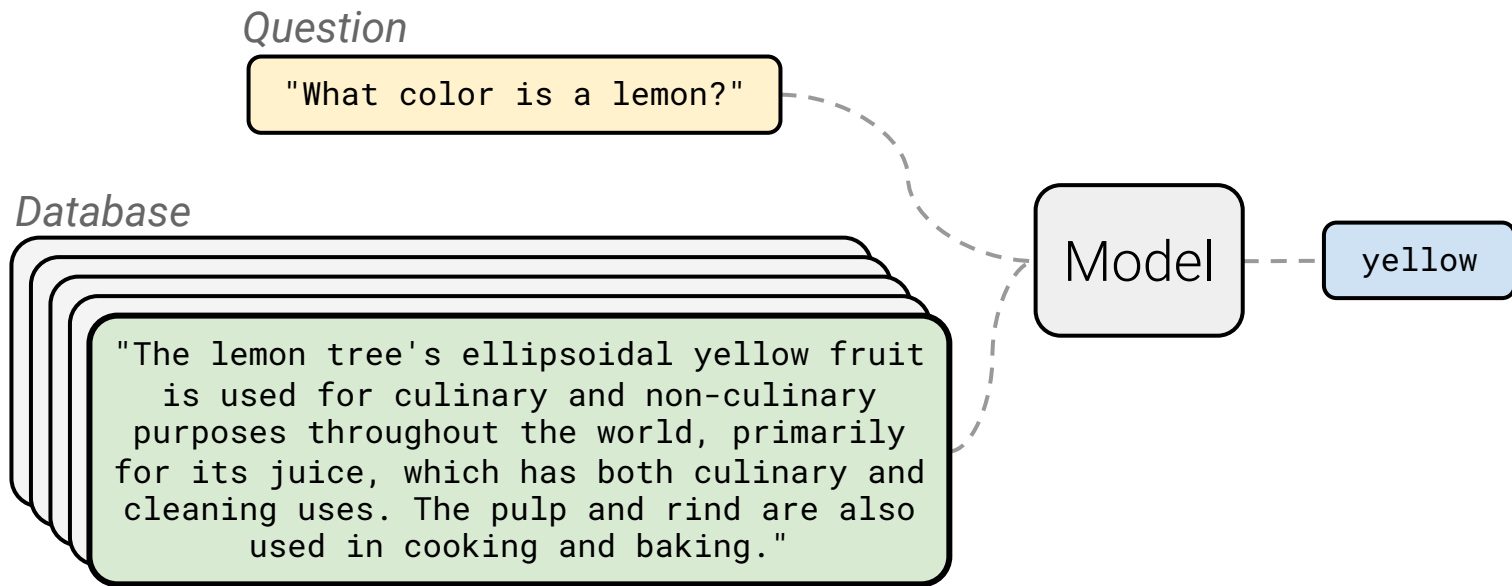


EfficientQA

2020 NeurIPS competition

Open Domain Question Answering

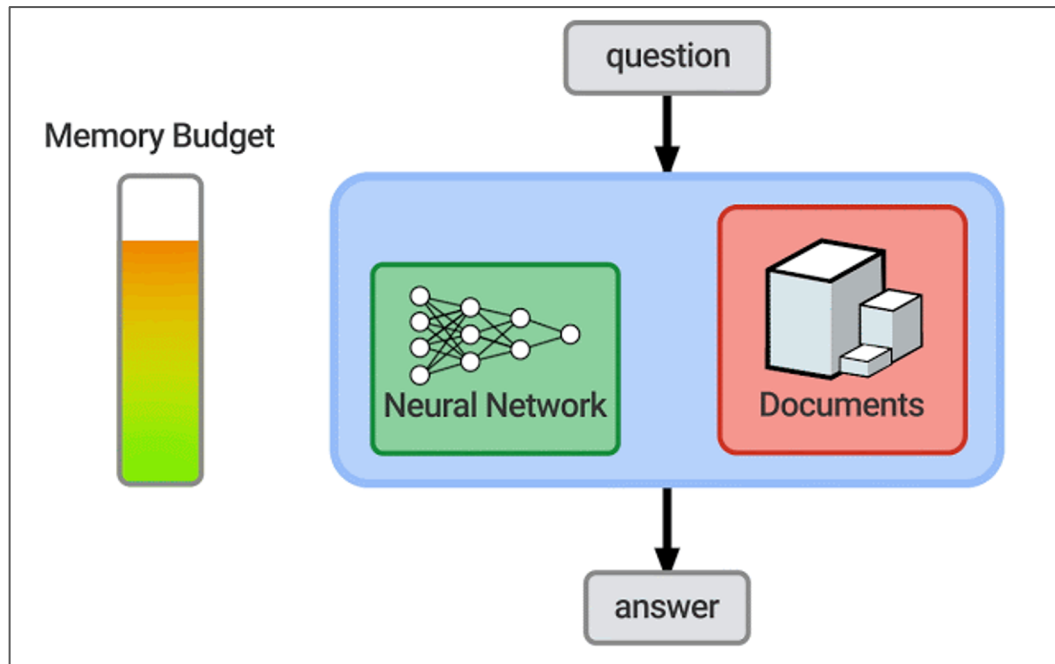


Memory Constraints

Explore different ways of storing knowledge given limited number of bytes.

4 tracks:

- Unrestricted
- Under 6GB
- Under 500MB
- Smallest system getting 25% accuracy



Event Overview

Overview

Data & Evaluation

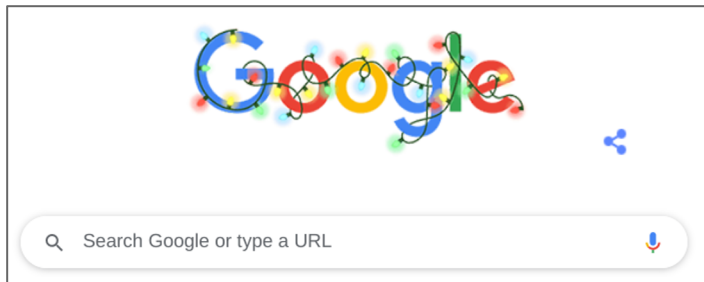
Tracks & systems

Unrestricted | 6Gb | 500Mb + 25% smallest

Trivia showdown

Showdown against trivia experts

Data - Natural Questions - Open

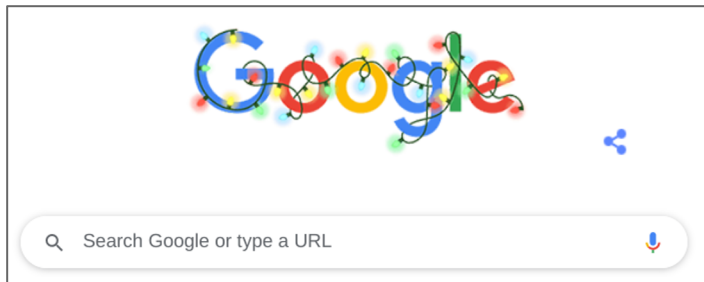


Q: which country is located north of the belgium

A: ["The Netherlands", "Netherlands"]



Data - Natural Questions - Open



Q: *which country is located north of the belgium*

A: [*"The Netherlands", "Netherlands"*]



Test data: same data collection with time shift

Evaluation

Automatic eval

String match (after normalization)

"The Netherlands" = "Netherlands"

"The Netherlands" ≠ "Holland"

Human eval

Judged by three human raters



"The Netherlands" = "Holland"

Evaluation

Automatic eval

String match (after normalization)

"The Netherlands" = "Netherlands"
"The Netherlands" ≠ "Holland"

Human eval

Judged by three human raters



"The Netherlands" = "Holland"

Agreement rate: 85.7% (Cohen's kappa=71.4)

Competition overview

- Held for 2 months (Sep 14 - Nov 14)
- 39 Submissions from 18 unique teams (7 teams from universities)
- 15-25% improvements over provided baselines across all tracks

Track & system [1/3]

Automatic

Human

Unrestricted track



54.00

65.80

facebook Artificial Intelligence

53.89

67.38

Track & system [2/3]

Automatic

Human

6Gb track

facebook Artificial Intelligence
(5.85G)

53.33

65.18

 **Studio Ousia**  **TOHOKU**
UNIVERSITY
(5.65G)

50.17

62.01

 **BRNO**
UNIVERSITY
OF TECHNOLOGY
(5.95G)

47.28

58.96

Track & system [3/3]

Automatic

Human

500Mb track

 **facebook AI**
(336M)

33.44

39.40

NAVER Clova
(485M)

32.06

42.23



25% smallest track

 **facebook AI**
(29M)

26.78

32.45

Track & system [3/3]

	Automatic	Human
<i>500Mb track</i>		
 facebook AI (336M)	33.44	39.40
NAVER Clova (485M)	32.06	42.23
<i>25% smallest track</i>		
 facebook AI (29M)	26.78	32.45

Stay tuned for a technical report with analyses!

This is the end of the event. Thank you for staying with us!

Competition website (All of today's
videos will be available shortly)
<https://efficientqa.github.io/>

**Full video of human vs. computer
competition:**
[https://www.youtube.com/watch
?v=4vU5PF894_o](https://www.youtube.com/watch?v=4vU5PF894_o)

For QnA (or to chat with organizers),
please use rocket chat
(we will be here during the break)

**Stay tuned for a technical report
with lessons learned**