Watson: the method to its genius

When Watson blew away the competition on 'Jeopardy'! it wasn't a case of simply bringing in this machine and just seeing what would happen. Like its human counterparts, Watson came prepared with 200 million pages of information loaded into its memory. To get the best out of Watson today, the same approach applies to those utilising its cognitive power.

To get the best answers and insights you need to arm Watson with the best and most relevant information for its line of work. This means bringing in the experts to fill Watson with the data that is applicable and discarding anything that might be outdated or inaccurate.

Once that's done, Watson is ready to get to work.

1. Question

The user specifies the question or query for Watson.

2. Question Analysis

Watson analyses the context of the question, often breaking it up into smaller parts to extract the correct meaning from each word or phrase.

3. Question Decomposition

Subsections of the question are then used to find potential answers. Decomposition streamlines the search process and can help to improve the system's overall answer confidence.

How does it work?

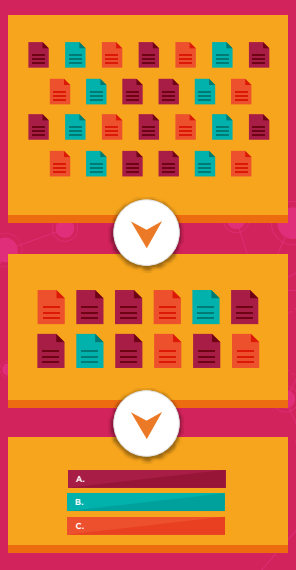
Primary search

In primary search the goal is to find as much potentially answer-bearing content as possible based on the results of question analysis.

Candidate answer generation

These snippets of content are then presented as possible answers.

Answer Sources



How does it work?

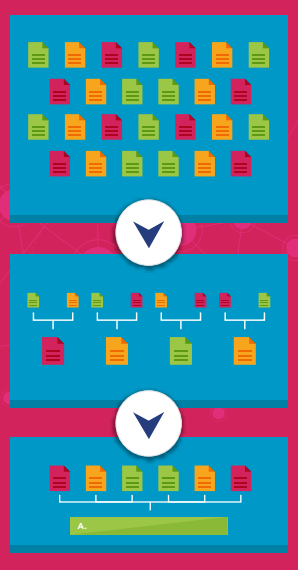
Supporting Evidence Retrieval

Watson generates additional supporting evidence for each potential answer

Deep Evidence Scoring

Scoring algorithms determine the degree of certainty that retrieved evidence supports the candidate answers.

Evidence Sources



4. Answer Generation

Watson generates a wide array of answers to the query, based on the primary search and candidate search.

5. Soft Filtering

The answers are flitered out based on what Watson learned from previous queries (machine learning), saving memory for computing the most relevant answers.

6. Answer and Evidence Scoring

Candidate answers that pass the soft filtering process undergo a rigorous evaluation process using additional supporting evidence and deep scoring analytics.

7. Synthesis

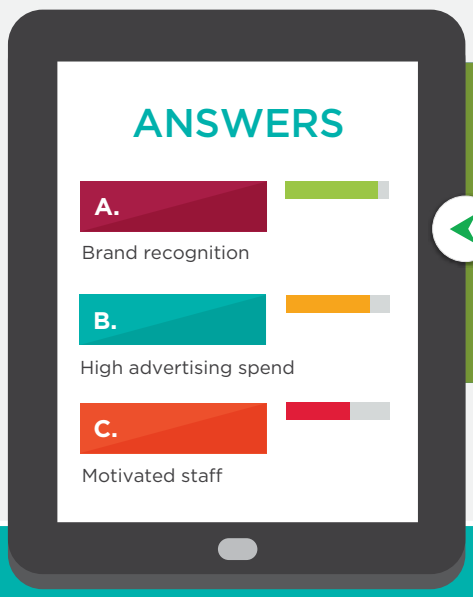
Watson groups same or related answers to avoid duplications (eg. 'large advertising budget', and 'high advertising spend').

8. Ranking and Confidence Estimation

The system ranks the answers and estimates their confidence based on their scores.

9. Choose your Answer

Watson presents the user with ranked answers and their respective confidence levels.



How Watson can help you

Increase Performance

Watson isn't programmed. It is a system that learns and improves itself by ingesting all the data it can and by being trained by humans. The more you use Watson the better it'll get at giving you the answers you need.

Gain Accuracy

You specify the content of what's being searched and you're in control of Watson's 'mode of thought'. Each answer outlines the reasoning behind its selection, so you can be sure the answer is correct.

Improve Efficiency

Watson takes less than 3 seconds to compute the answers to your queries. Imagine the time you can save on reports, analytics or research.

Get to know Watson

Interested in learning more about how IBM Watson and cognitive business can rapidly help transform your processes?

LEARN MORE

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FRESH IDEAS, EXCEPTIONAL OUTCOMES.

Sources: Building Watson: An Overview of the DeepQA Project (2010).Retrieved from: http://researcher.watson.ibm.com/researcher/view_group_pubs.php?grp=2099