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# IBM Watson: What Cognitive Computing Can Mean to Mediation

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# Learning from Jeopardy

Watson  
“guesses”  
wrong

U.S. CITIES

\$2,400 \$36,000 \$5,400

ITS LARGEST AIRPORT IS NAMED FOR  
A WORLD WAR II HERO;  
ITS SECOND LARGEST,  
FOR A WORLD WAR II BATTLE

0:20 / 1:49

IBM Watson Jeopardy Mistake: What is Toronto?????

# To build expertise, people follow certain steps



Study

Apprentice

Practice

Master

## Watson follows a similar path



Study

Apprentice

Practice

Master



Ingest

Learn

Test

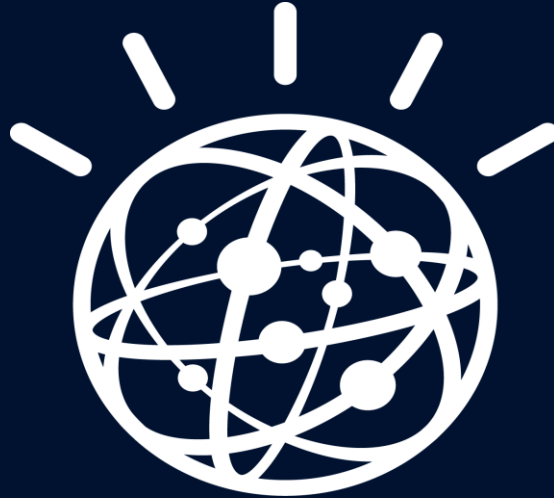
Experience

# Watson brings in cutting edge areas of computer science

Machine learning

Question answering  
technology

Knowledge representation  
and reasoning










Natural language  
processing

High performance  
computing

Unstructured information  
management








# Answering questions is not about searching for documents

## Search engine

-  Has question
-  Distills to 2-3 keywords
-  Finds documents containing keywords
-  Delivers documents based on popularity
-  Reads documents
-  Finds answers
-  Finds and analyzes evidence

vs.

## IBM Watson

-  Asks a question
-  Understands question
-  Produces possible answers and evidence
-  Analyzes evidence
-  Computes confidence
-  Delivers response, evidence and confidence
-  Considers answers and evidence

# Smart Lane vs. Cognitive Lane



**Evil MoPac** @EvilMopacATX · Oct 31



Even the most cynical among you must concede that my finished toll lanes have us back at 2014, pre-project traffic.

[#atxtraffic](#) [#atx](#)



# Care & Feeding of Watson

- He drinks from a “data lake”
- Constantly updated
- Experts ”teach” with Q&A and regular testing and evaluation
- Watson asks questions
- Information is weighted
- **Hot Topic: Data Use Rights**



# Will Watson Replace Humans?

- Watson's Potential: To find solutions to the world's most unsolvable problems
  - But working with humans; not by itself
- Cognitive computing simply augments human work; it doesn't replace it
- It completes the research faster
- It uses 1000's of resources all at the same time

*These systems can ingest and understand all forms of data, which is being produced at an unprecedented rate. [IBM Think Blog](#)*

# IBM Watson and Sesame Workshop Introduce Intelligent Play and Learning Platform

- A teacher's **assistant**
- An app with learning design methods from [Sesame Workshop's](#) established practices
- *Sesame Street's* beloved characters
- Research-based videos and interactive learning games
- Continually learns to become more and more tailored to a child's needs

# Watson for Oncology

- Used by more than 50 hospitals around the world.
- Trained by [New York's Memorial Sloan Kettering Cancer Center](#)
- Derives hundreds of attributes from a patient's electronic health records, including doctors' notes, x-rays and lab reports using Natural Language Processing (NLP) technology
- Provides clinicians with confidence-ranked treatment options and supporting evidence to help them make treatment decisions for their patients.

# Watson for Oncology

- Doctors and patients report Watson for Oncology is boosting patient confidence in doctor recommendations
- Has already touched 14,000 people across the globe
- Is a tool available for use by the doctor

“Patients outside of the Seoul metropolitan area have had to visit hospitals in the capital city for second opinions. Watson for Oncology will eliminate such inconveniences,” **Konyang University Hospital Director Choi Won-jun** said in a statement. “Adding an AI-based medical system to the hospital’s talented joint cancer treatment team, we expect to be able to provide the best medical services for cancer patients.”

# Cognitive Computing in ADR

- Your clients (the attorneys) will be using cognitive solutions
  - Attorneys will use it for discovery, strategy planning, case evaluation
- Your clients' clients will be using cognitive solutions
  - Imagine "reasonable person" vs "cognitive solution told me"
- Increase in disputes regarding cognitive computing
  - Data Use Rights
  - Privacy
  - Torts: because you used/didn't use cognitive computing

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# Cognitive Computing in ADR

*These cognitive systems are neither autonomous nor sentient, but they form a new kind of intelligence that has nothing artificial about it. They augment our capacity to understand what is happening in the complex world around us.*

*Leaders of every industry and institution are sprinting to become digital, adopting digital products, operations and business models. But once everything becomes digital, who will win?*

*The answer is clear: It will be the companies and the products that make the best use of data. Data is the great new natural resource of our time, and cognitive systems are the only way to get value from all its volume, variety and velocity. Having ingested a fair amount of data myself, I offer this rule of thumb: If it's digital today, it will be cognitive tomorrow.*

*Ginni Rometty, Wall Street Journal, 10/18/16*

# More about IBM Watson

- <https://youtu.be/AtdJ1DGJjXA>
- [What's Watson Working on Today](#)