

Soluciones Cognitivas

con IBM Watson



¿Qué es Watson?

¿Qué es Watson?

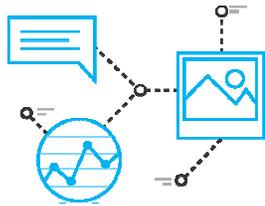
Watson es una **plataforma tecnológica** informática de **inteligencia artificial** que utiliza tecnología de Procesamiento del Lenguaje Natural y Machine Learning para **revelar conocimiento** a partir de un gran conjunto de datos no estructurados.

El proceso de conocimiento

volumen y variedad de datos

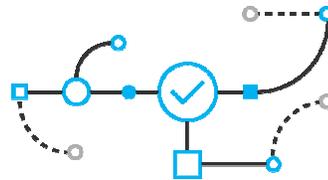


Tres capacidades diferencian a los sistemas cognitivos de los sistemas computacionales programados tradicionales...



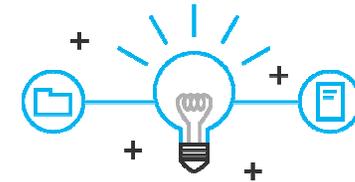
Entender

Los sistemas cognitivos entienden como lo hacen los humanos.



Razonar

Entienden las ideas y conceptos subyacentes. Forman hipótesis. Inferen y extraen conceptos.



Aprender

Nunca paran de aprender convirtiéndose mas valiosos con el tiempo. Avanzando con cada pieza de información, interacción y resultado. Desarrollan "habilidades".

.... permitiéndoles interactuar con humanos.

La historia de vida de Watson

**IBM
Research Project
2006**



IBM
Research Project
2006

PIENSE
THINK
SITACHITIS
चिए

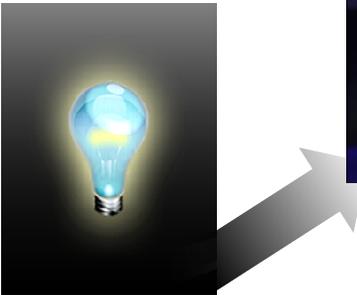
ΣΚΕΨΟΥ
DENKE
PENSER

\$2,000
ken

\$7,000
WATSON

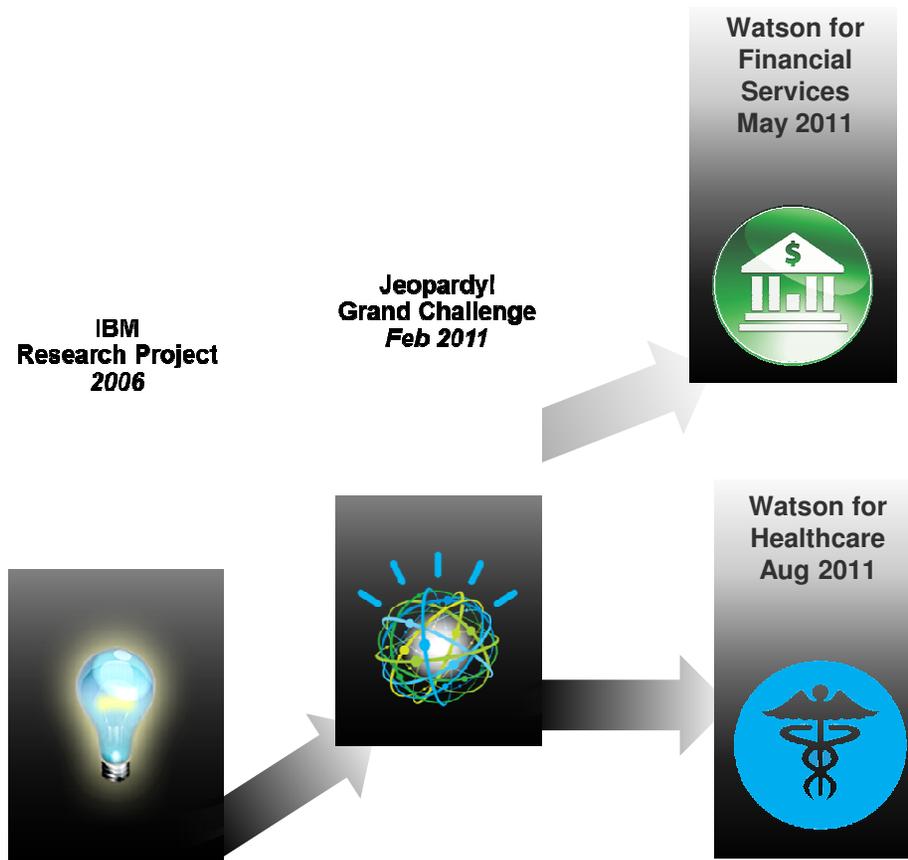
\$5,000
BRAD

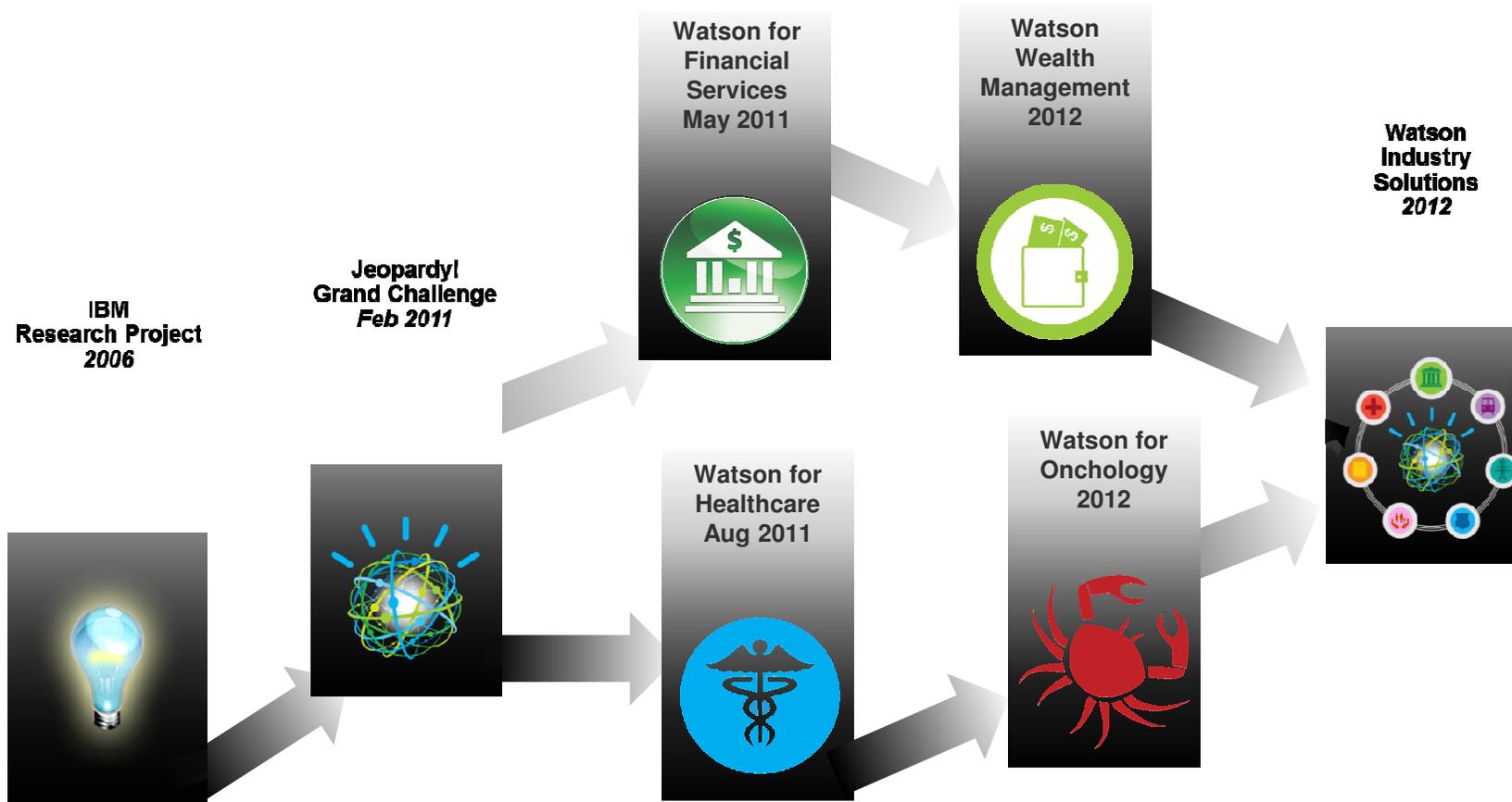
Franz Liszt 96%
Chopin 10%
Ferruccio Busoni 6%



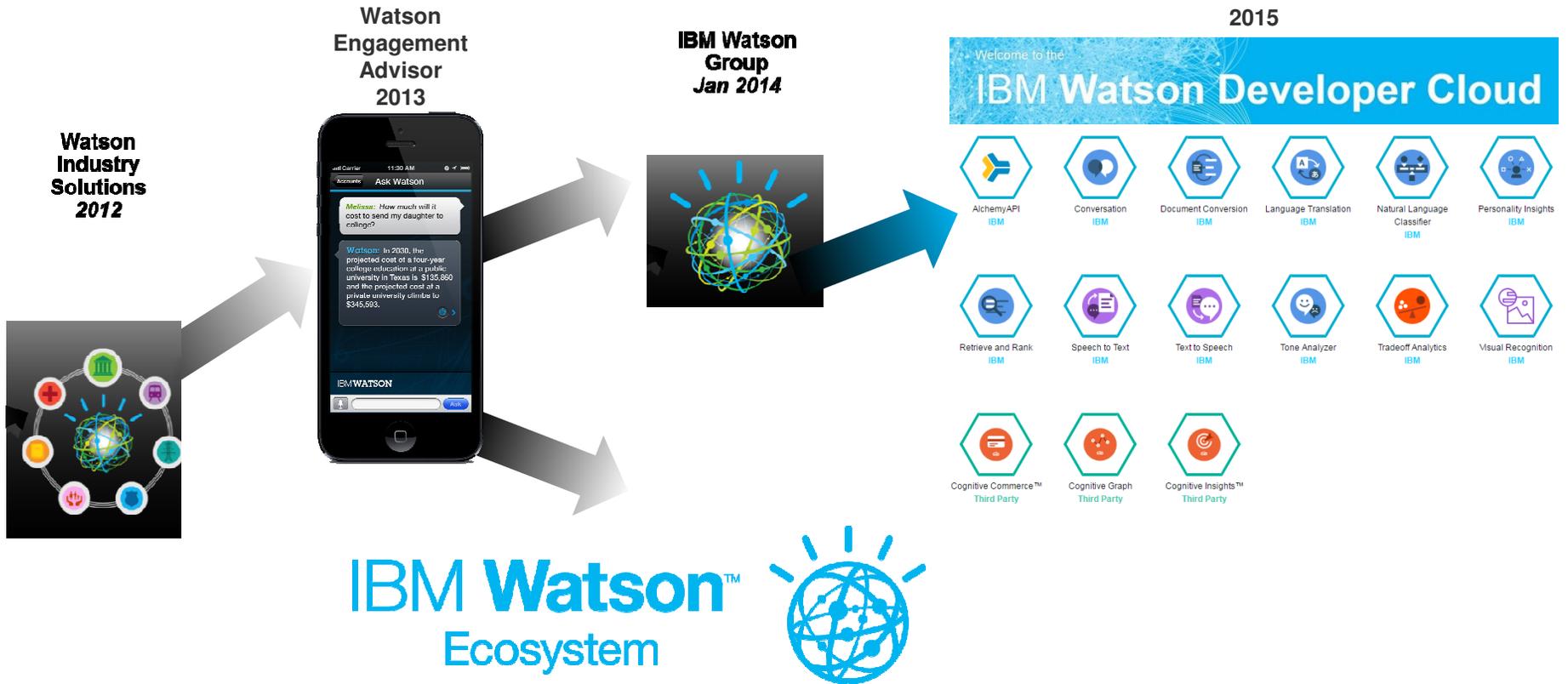
Feb. 2011

<https://www.youtube.com/watch?v=P18EdAKuC1U>

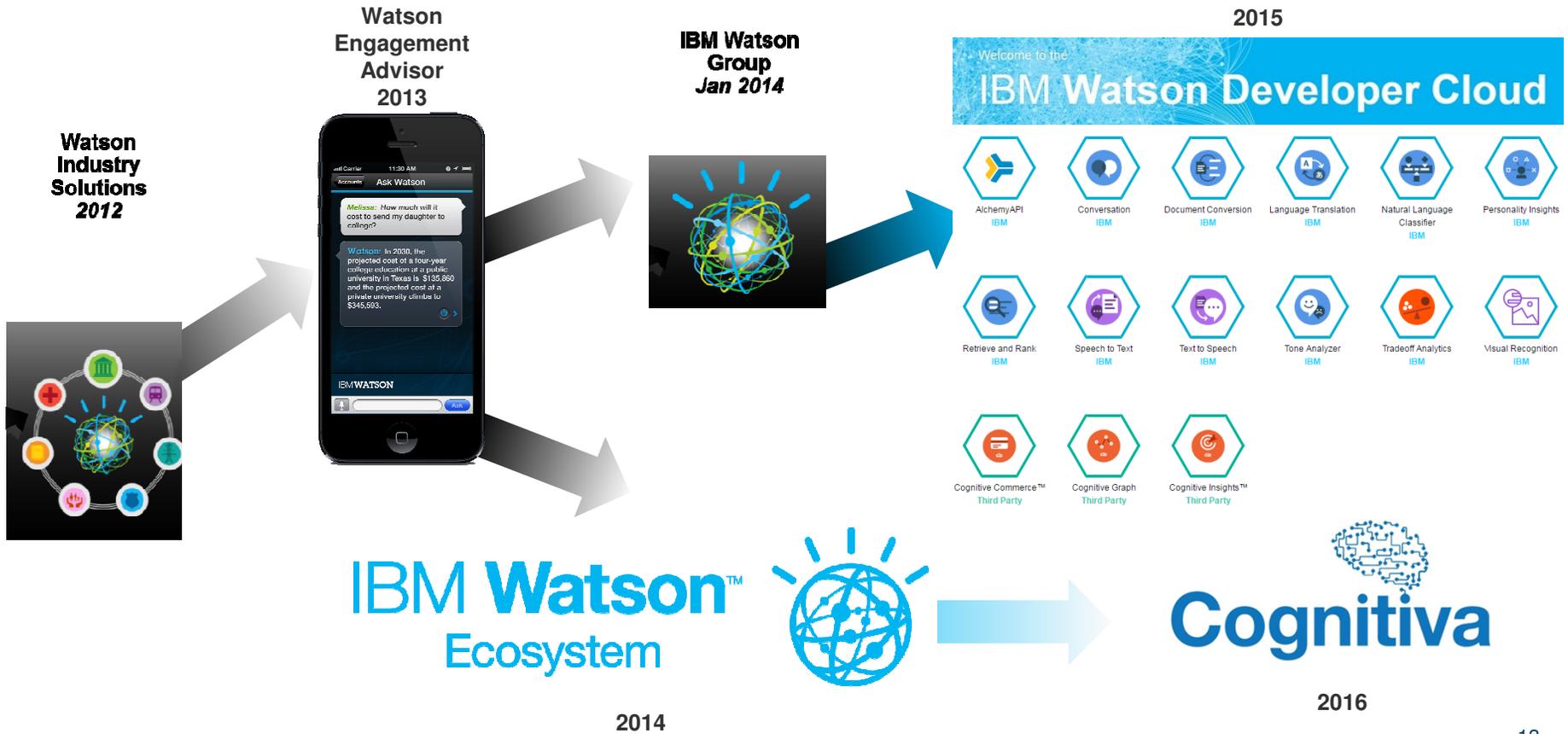




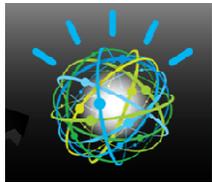




2014



IBM Watson Group
Jan 2014

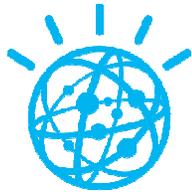


2015

Welcome to the
IBM Watson Developer Cloud

- | | | | | | |
|--|------------------------------------|--|---------------------------------|--|---------------------------------|
|
AlchemyAPI
IBM |
Conversation
IBM |
Document Conversion
IBM |
Language Translation
IBM |
Natural Language Classifier
IBM |
Personality Insights
IBM |
|
Retrieve and Rank
IBM |
Speech to Text
IBM |
Text to Speech
IBM |
Tone Analyzer
IBM |
Tradeoff Analytics
IBM |
Visual Recognition
IBM |
|
Cognitive Commerce™
Third Party |
Cognitive Graph
Third Party |
Cognitive Insights™
Third Party | | | |

atson™
em



Cognitiva

2016

hoy



Capacidades cognitivas usando Watson APIs.

50 tecnologías básicas

- Entity Extraction
- Sentiment Analysis
- Emotion Analysis (Beta)
- Keyword Extraction
- Concept Tagging
- Taxonomy Classification
- Author Extraction
- Language Detection
- Text Extraction
- Microformats Parsing
- Feed Detection
- Linked Data Support
- Concept Expansion
- Concept Insights
- Dialog
- Document Conversion
- Language Translation
- Natural Language Classifier
- Personality insights
- Relationship Extraction
- Retrieve and Rank
- Tone Analyzer
- Emotive Speech to Text
- Text to Speech
- Face Detection
- Image Link Extraction
- Image Tagging
- Text Detection
- Visual Insights
- Visual Recognition
- AlchemyData News
- Tradeoff Analytics

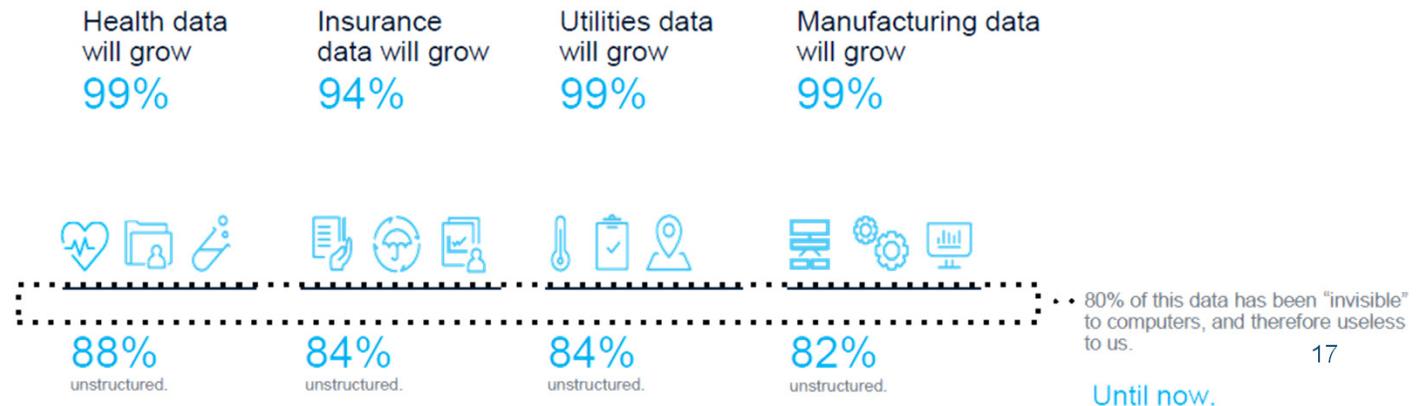


**¿por qué las organizaciones
tienen que tener esta capacidad?**

- En los últimos años se han estado generando miles de dispositivos, sistemas y aplicaciones para usos múltiples que han generado y generan millones de datos
- Por su cantidad y diversidad es imposible de procesar por los humanos en tiempos razonables
- La gran mayoría de estos datos están y se generan "desestructurados"
- Se dice que estos datos son invisibles para los humanos y para las máquinas... "nadie" los procesa

¿Y si las computadoras pudieran procesar (entender, conectar, descifrar) estos datos en tiempos razonables para generar información útil?

Ahí está el potencial.





AlchemyAPI
IBM



Conversation
IBM



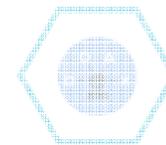
Document Conversion
IBM



Language Translation
IBM



Natural Language
Classifier
IBM



Personality Insights
IBM

Algunas de las capacidades de Watson



Retrieve and Rank
IBM



Speech to Text
IBM



Text to Speech
IBM



Tone Analyzer
IBM



Tradeoff Analytics
IBM



Visual Recognition
IBM



Cognitive Commerce™
Third Party



Cognitive Graph™
Third Party



Cognitive Insights™
Third Party

Alchemy API



Results

- Entities
- Keywords
- Concepts
- Taxonomy
- Document Emotion
- Targeted Emotion
- Document Sentiment
- Targeted Sentiment
- Typed Relations
- Relations
- Title

Entities

Extracts people, companies, organizations, cities, geographic features, and other entities from your content, and optionally detects the sentiment of each entity.

[↔ View JSON](#)

Entity	Relevance	Sentiment	Type
Elliot Turner	0.89066	positive	Person
PR Newswire	0.252507	neutral	PrintMedia
Walmart	0.233257	positive	Company
AlchemyAPI	0.211686	positive	Company
iPhone.	0.163204	neutral	Technology
three years	0.163204	neutral	Quantity

- 12 APIs alrededor de las funciones de servicio de análisis de texto
- Utiliza técnicas de procesamiento de lenguaje natural para analizar su contenido y añadir información semántica de alto nivel
- Devuelve: entidades encontradas, palabras claves, conceptos, relaciones entre conceptos, sentimientos asociados a las entidades, etc

<http://www.alchemyapi.com/products/demo>

Tone Analyzer



Tones

Emotion

Anger

Disgust

Fear

Joy

Sadness

Language

Analytical

Confident

Tentative

Social Tendencies

Openness

Conscientiousness

Extraversion

Agreeableness

Emotional Range

In context Ranked by score JSON

None Strong

You are now connected to Customer Service.

Customer: Hello.

Agent: Hello.

Agent: How can I help you today?

Customer: Someone created an account using my email account.

Customer: This is not my account.

Customer: How can I delete this account?

Agent: Okay, let me check this out for you.

Agent: One moment please.

Customer: Okay.

Customer: ?

Agent: Yeah.

Agent: I'm here.

Agent: I'm so sorry for taking a long time on this.

Agent: Okay, I'll reset your password.

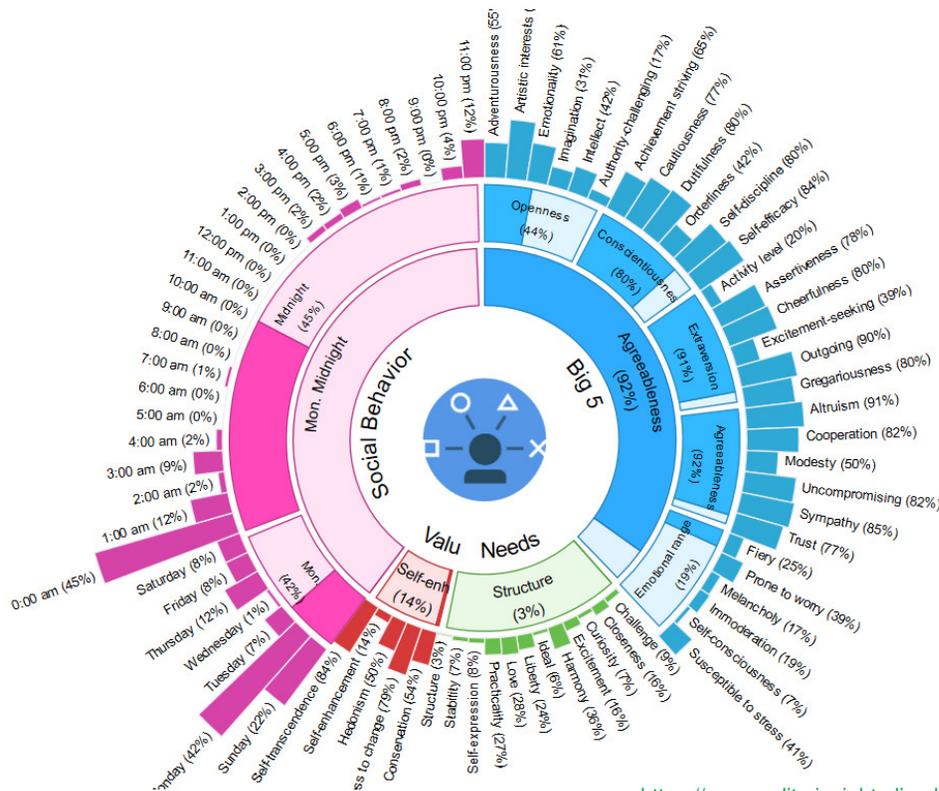
Agent: Just check the link on it, so you can have your new password.

Customer: No

- Entiende y ayuda a “afinar” un mensaje.
- Utiliza la psicolingüística, el análisis de la emoción y el análisis del lenguaje para evaluar el tono
- Devuelve: la probabilidad de cada una de las frases de pertenecer a uno de los 5 tonos (enojo, disgusto, miedo, alegría, tristeza)

<https://tone-analyzer-demo.mybluemix.net/>

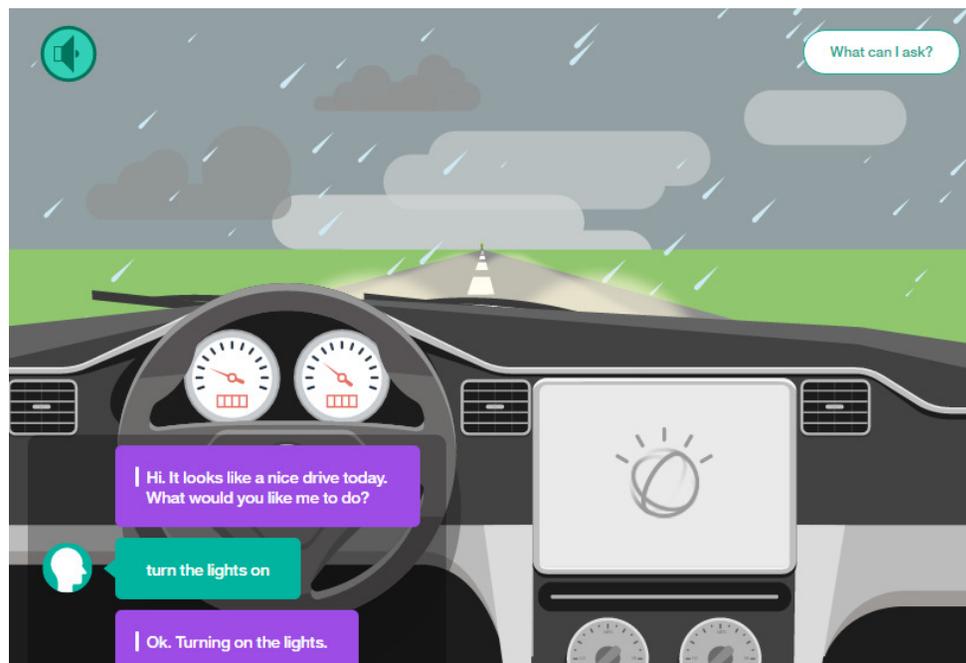
Personality Insights



- Utiliza análisis lingüístico para inferir las características de personalidad intrínsecas de los individuos (incluyendo los “big five”), necesidades y valores, a partir de las comunicaciones digitales, tales como correo electrónico, mensajes de texto, mensajes de twitter y mensajes en foros.

<https://personality-insights-livedemo.mybluemix.net/>

Conversation



- Con este servicio se pueden crear bots (chatbots o agentes virtuales) que combinan machine learning, entendimiento del lenguaje natural, y herramientas de diálogo para que, de forma integrada, generen una relación/experiencia con el usuario

<https://conversation-demo.mybluemix.net/>

¿qué se ha hecho con Watson? (Casos de Uso)

GET HELP FROM WATSON

red meat olive oil thyme
black pepper kosher salt
butter shallot garlic
red onion

INCLUDE EXCLUDE

Q Search:

A

- absinthe
- acacia honey
- acai puree
- achioti paste
- acini di pepe
- acorn squash
- active dry yeast
- adobo sauce
- african bird pepper
- agave syrup
- aged rum
- aioli
- aji amarillo
- ajvar sauce
- ajwain
- albacore tuna
- alcoholic beverage
- ale
- aleppo pepper
- alfredo sauce
- allspice
- almond
- almond biscotti
- almond butter
- almond extract
- almond flour
- almond liqueur
- almond macaroon
- almond meal
- almond milk
- almond oil
- almond paste
- almond syrup
- aloe vera juice
- amaranth
- amaretti
- amaretto

LOOK FOR INGREDIENTS

CHOOSE A DISH

PICK A STYLE

START AGAIN

FAVORITES

RED MEAT

MUSHROOM

A mushroom (or toadstool) is the fleshy, spore-bearing fruiting body of a fungus, typically produced above ground on soil or on its food source. The standard for the name "mushroom" is the cultivated white button mushroom, *Agaricus bisporus*; hence the word "mushroom" is most often applied to those fungi (Basidiomycota, Agaricomycetes) that have a stem (stipe), a cap

PECAN

The pecan (*/piˈkɑːn/, /piˈkæn/, /ˈpiːkæn/, or /ˈpiːkɑːn/*; *Carya illinoensis*) is a species of hickory, native to south-central North America, in Mexico from Coahuila south to Jalisco and Veracruz, in the United States in Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Oklahoma, South Carolina, Tennessee.

DIJON MUSTARD

Mustard is a condiment made from the seeds of a mustard plant (white or yellow mustard, *Sinapis hirta*; brown or Indian mustard, *Brassica juncea*, or black mustard, *B. nigra*).

← BACK
SYNERGY
→ MORE

HERE ARE SOME IDEAS

Red Meat Rice Dish

cornstarch, **lamb leg**, egg, pecan, mushroom, vegetable oil, horseradish root, negro chile, red rice, sorrel, sage, kosher salt, sauerkraut, soy sauce, dijon mustard, chipotle

Based on: [Tofu Yum-Yum Rice Bowl](#) from Bon Appétit

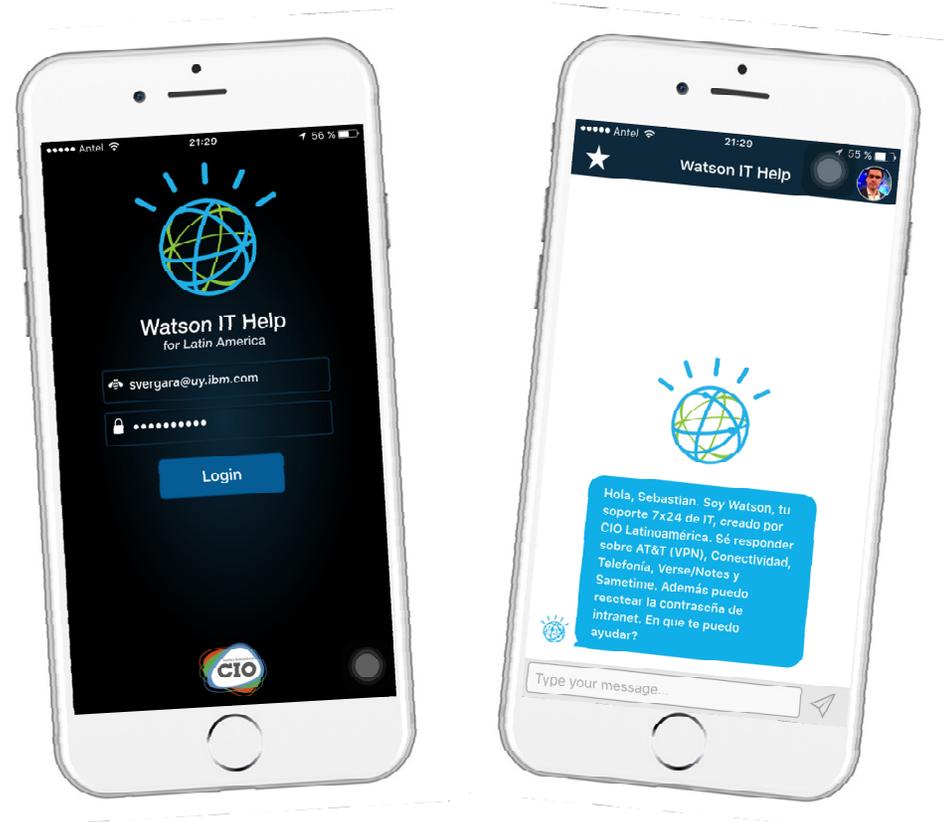
MORE...

Red Meat Noodles

lamb leg, confectioners' sugar, egg, pappardelle, tarragon vinegar, striped bass, pecan, broccoli, avocado, mushroom, vegetable oil, blackberry, salsa verde, dijon mustard, white pepper

MORE...

Watson for IT (app interna a IBM)



TOP TRENDS

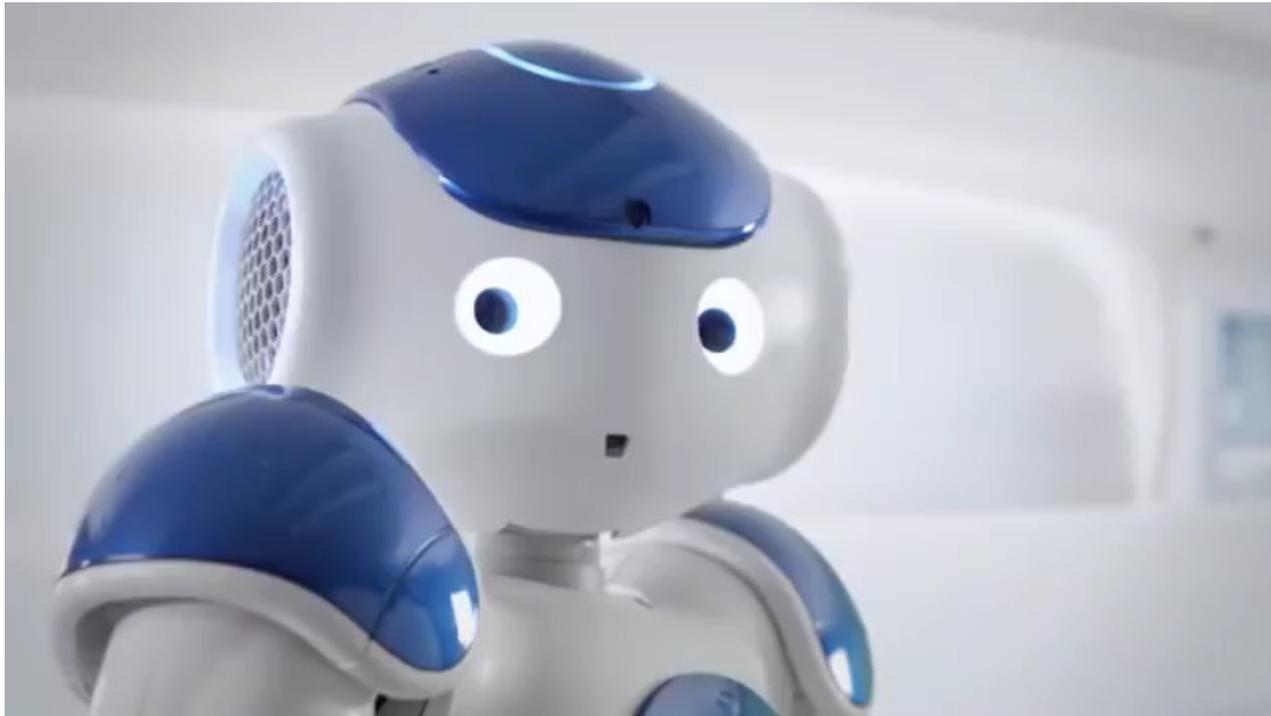
 <p>Samsung TVs 36 ▼7</p> <p>☆</p>	 <p>Sony TVs 34 ▼3</p> <p>☆</p>	 <p>LG TVs 18</p> <p>☆</p>	 <p>Sharp TVs 9 ▼1</p> <p>☆</p>	 <p>Sennheiser Headphones 5 ▼5</p> <p>☆</p>
 <p>Beats by Dre 3 ▼1</p> <p>☆</p>	 <p>Bose Audio Speakers 3</p> <p>☆</p>	 <p>Bose Headphones 2 ▼1</p> <p>☆</p>	 <p>Philips TVs 2</p> <p>☆</p>	 <p>Shure Headphones 2 ▼1</p> <p>☆</p>
 <p>JBL Flip 3 1</p> <p>☆</p>	 <p>Sonos 1</p> <p>☆</p>	 <p>Skullcandy Headphones 1</p> <p>☆</p>	 <p>Samsung Cameras 1</p> <p>☆</p>	 <p>Microsoft Surface Pro 4 1</p> <p>☆</p>

Connie : conserje de hotel Hilton



<https://www.youtube.com/watch?v=AooSz0weMVc>

Asistente en Personal Bank



<https://www.youtube.com/watch?v=o-HaP4mpW78>

Asesor de Inversiones

[< Back to home](#)

Clients > Catalina Santos

Personal info



Catalina Santos
Client 112

No info **16171**
language posts analyzed

Personality Summary

Matching Funds

Representatives

Investment advisor recommends agents focusing on

building a long-term relationship with your clients. It uses client's personality to select the best matching agent, as the closest personality match or best complementing personality to handle this customer.

Recommended Engagement Times

Wed. in the Evening hour

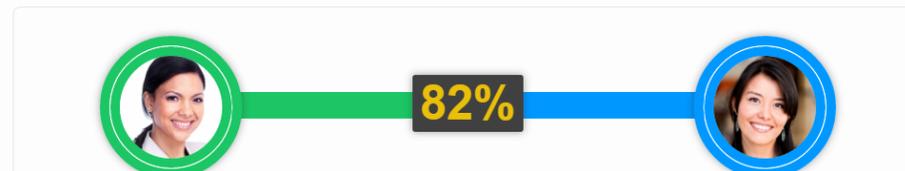
Recommended Engagement Channel

Social Media

Engagement Strategy

This person appears to be very risk tolerant, pragmatic, embraces change and can handle stress well but a bit unorganized. Help them by offering taking care of details for them, offer tools to better organize and provide structure to their life.

Best matches for Catalina Santos



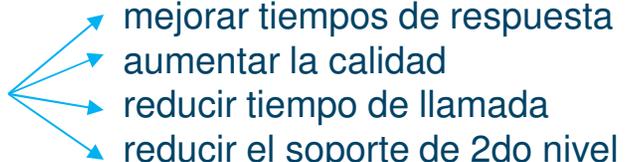
<http://investment-advisor.mybluemix.net/>

Asistente virtual

Para clientes:

- Educar a la población
- Realizar trámites específicos

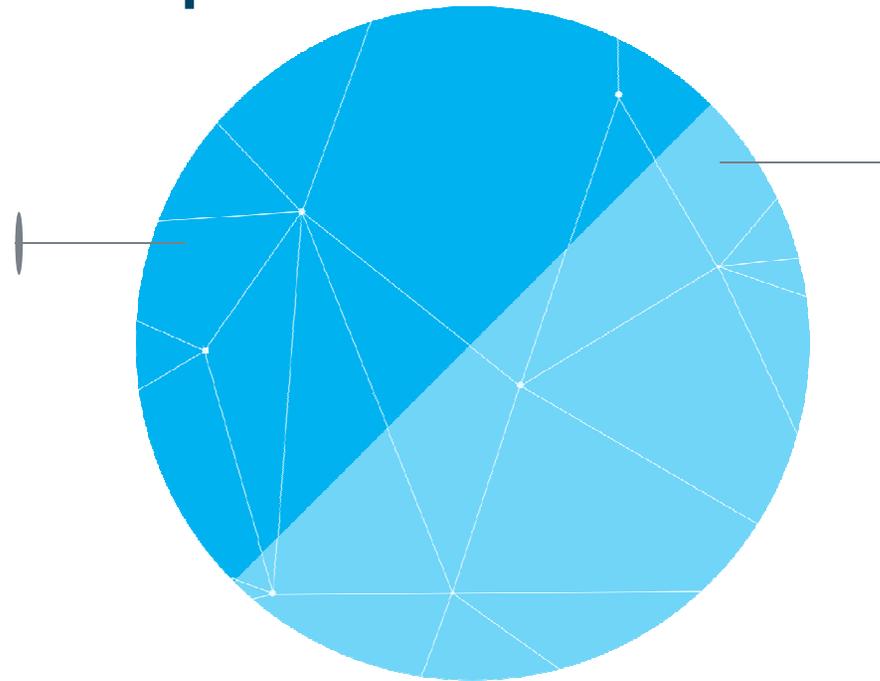
Para uso interno:

- Asistencia a los funcionarios del contact center
 - Para optimizar el día a día de los funcionarios
 - Identificar nuevos prospectos
- 
- mejorar tiempos de respuesta
 - aumentar la calidad
 - reducir tiempo de llamada
 - reducir el soporte de 2do nivel

Los sistemas cognitivos forjan una nueva alianza entre el hombre y la máquina

Los humanos destacan en:

- Sentido Común
- Moral
- Imaginación
- Compasión
- Abstracción
- Dilemas
- Soñar
- Generalización



Los Sistemas Cognitivos destacan en:

- Encontrar Conocimiento
- Identificación de Patrones
- Lenguaje Natural
- Machine Learning
- Eliminar Parcialidad
- Capacidad Infinita

Muchas gracias

