

Watson Assistant Overview

- Watson Assistant
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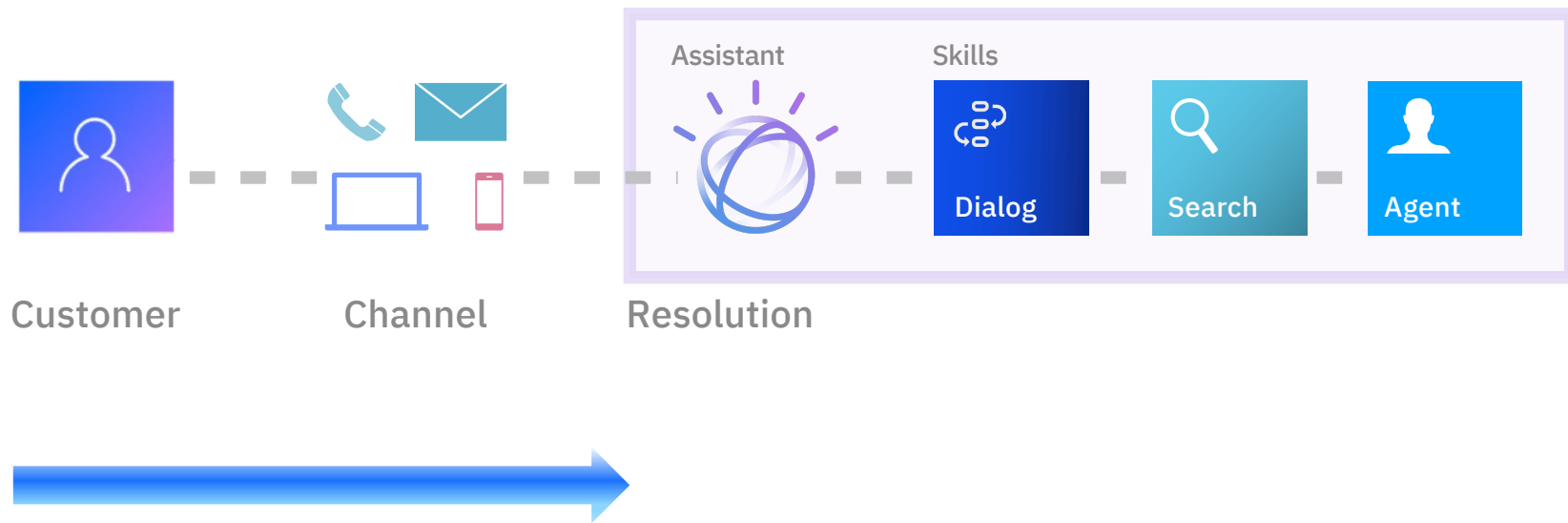
Agenda

- What
- Why
- How

What is Watson Assistant?

Watson Assistant

[Not another chatbot]





IBM Watson Assistant

An AI Agent that:

- ✓ Learns with **less** data
- ✓ **Disambiguates** when unsure
- ✓ Can **change** topics (digress)
- ✓ Use **Search** or **human** agents as fallback
- ✓ **Recommends** ways to improve
- ✓ Is **omni-channel**

Agenda

- What
- Why
- How

To help employees
serve customers
better..

34% of contact center decision-makers indicate they don't have a knowledge management solution at all

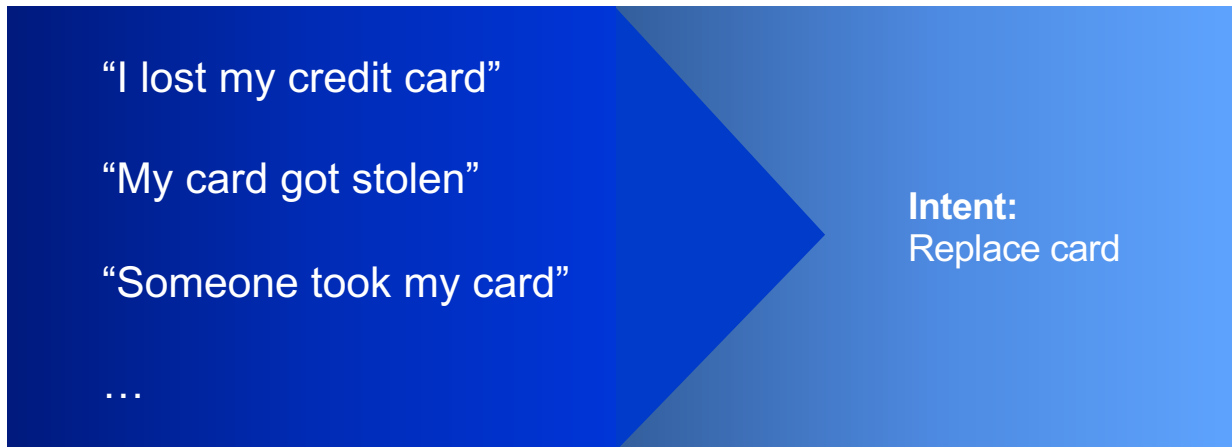
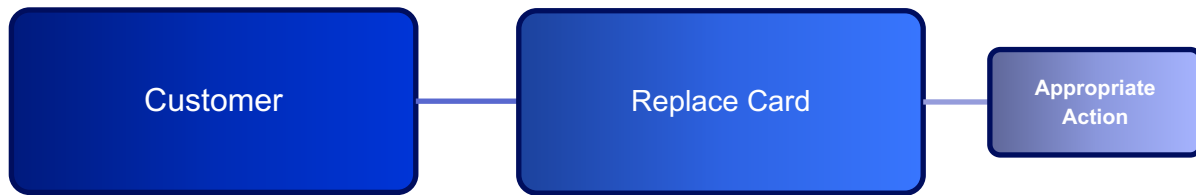
60% believe that cognitive computing will allow humans to shift to more person-to-person interactions

74% believe that cognitive computing will usher in a new era of man and machine collaboration

Agenda

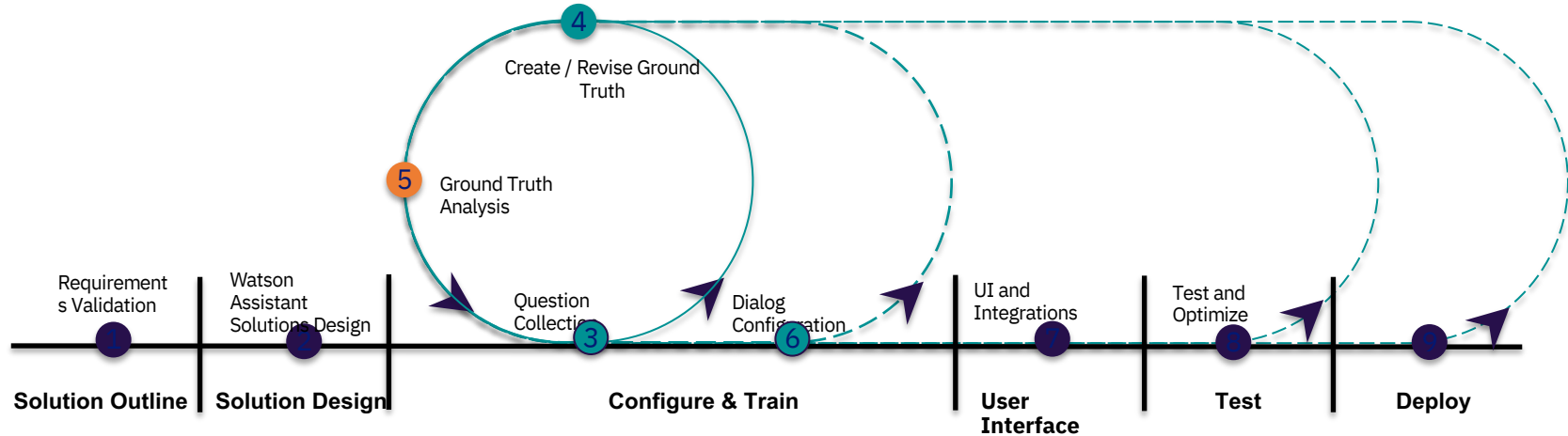
- What
- Why
- How

Used in systems that **connect to your infrastructure** and use **machine learning** to **understand your customer's intent**, quickly



Watson Assistant Implementation Cycle

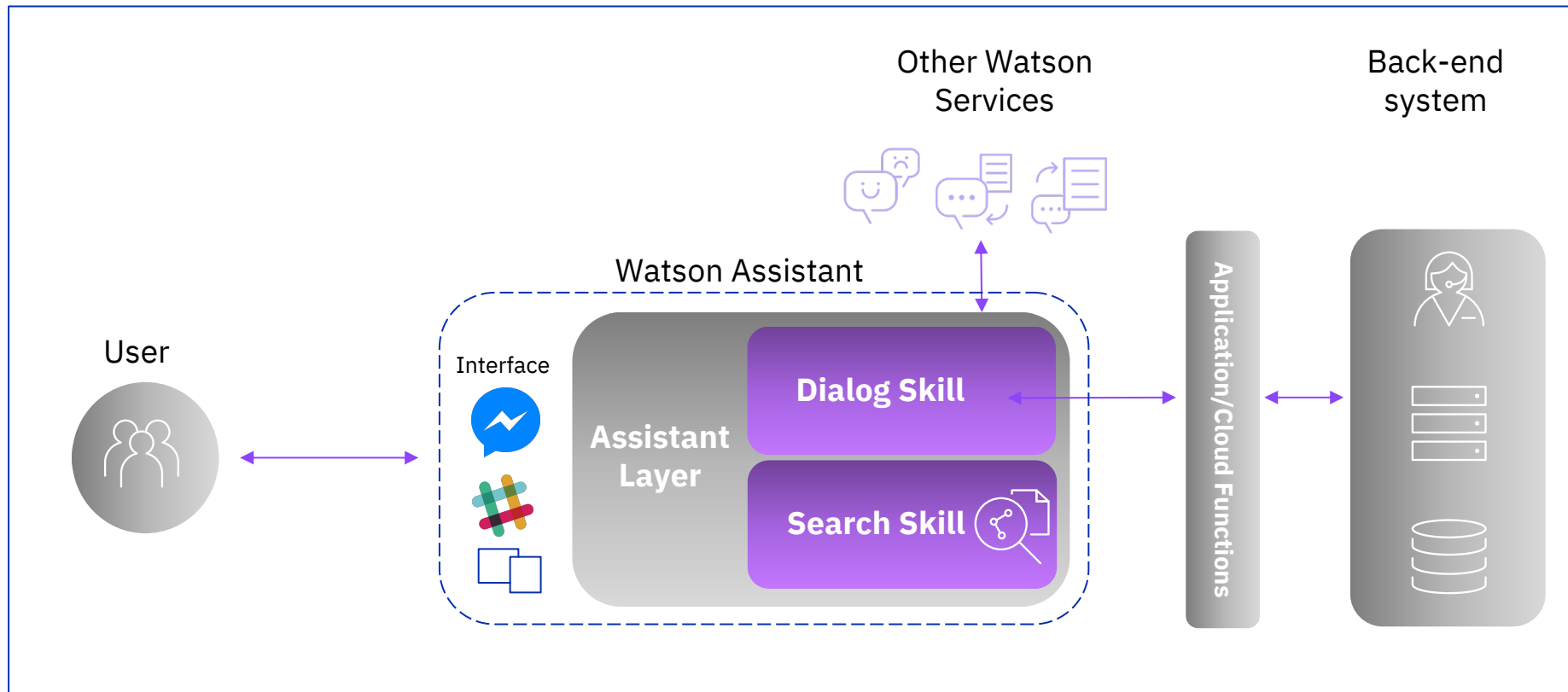
Ground Truth Analysis



1. Validate User Scenario, Use Cases and Requirements, and Watson Assistant Technology Pattern
2. Define Watson solution design
3. Collect representative questions in “voice” of end users that will be used to teach and test Watson Assistant
4. Group representative questions into intent classes that will be used to create Ground truth
5. **Evaluate the Ground truth**
6. Configure the Dialog component for the conversational flow you wish to have with your end users. Question and answering, chit chat, off topic, disambiguation, etc.
7. Configure a UI to access Watson Assistant and any integrations as needed for the solution
8. Evaluate performance, gather new questions, revise ground truth and dialog. Repeat.
9. Deploy Watson MVP to Pilot

Watson Assistant

Typical Design



Assistant + Skills Architecture

- Hosted end-to-end experience
- Session State Management
- Channel Integrations

Business benefit: shrink the effort and amount of time needed to bring an Assistant to market.

Assistant / Skills

- Assistant maintains session context and can connect to a number of managed integrations
- Assistant references “skills” which contain reasoning logic and responses
- Preview link integration allows you to quickly share your bot internally before launching

The screenshot shows the 'Assistants' tab in the IBM Watson Assistant console. The main heading is 'TW Bank Bot' with a subtitle 'TW bank's banking assistant!'. On the right, there are links for 'View API Details', 'Rename', and 'Delete'. Below this, the 'Skill' section displays a table with the following data:

LANGUAGE:	TRAINED DATA:	DATE CREATED:	DATE MODIFIED:
English (US)	22 Intents 5 Entities 53 Dialog Nodes	Wed Dec 05 2018	Wed Dec 05 2018

Below the table, it shows 'LINKED ASSISTANTS:' with the entry 'grnejwkggnrejkli, TW Bank Bot'. To the right of the skill details is the 'Integrations' section, which says 'Choose a channel to deploy your Assistant.' and includes an 'Add Integration' button and a 'Preview Link' button with a code icon.

The screenshot shows the 'Add Integration' page. It has a heading 'Add Integration' and a subtext 'Select a deployment method that is managed for you and can be configured within the tool or learn about other ways to deploy the assistant.' Below this, there are two sections: 'Managed|Built-in integrations' and 'Other integrations'.

Managed|Built-in integrations

- Facebook Messenger**: Make the assistant available to customers through Facebook Messenger on the web or on native mobile clients.
- Preview Link**: Embed the assistant in a chat widget hosted on an IBM-branded web page that your team can use for testing.
- Slack**: Make the assistant available to customers by adding it to a Slack app as a bot user.

Other integrations

- Custom application**: [Learn more](#)
- WordPress plug-in**: [Learn more](#)

The screenshot shows a chatbot conversation interface. The chat bubbles are as follows:

- User: I want to transfer money
- Bot: How much do you want to transfer?
- User: \$1000
- Bot: Got it! \$1000
- User: And when are you looking to make this transfer?

At the bottom, there is a text input field with the placeholder 'Send a message...' and a send button.



Watson Assistant

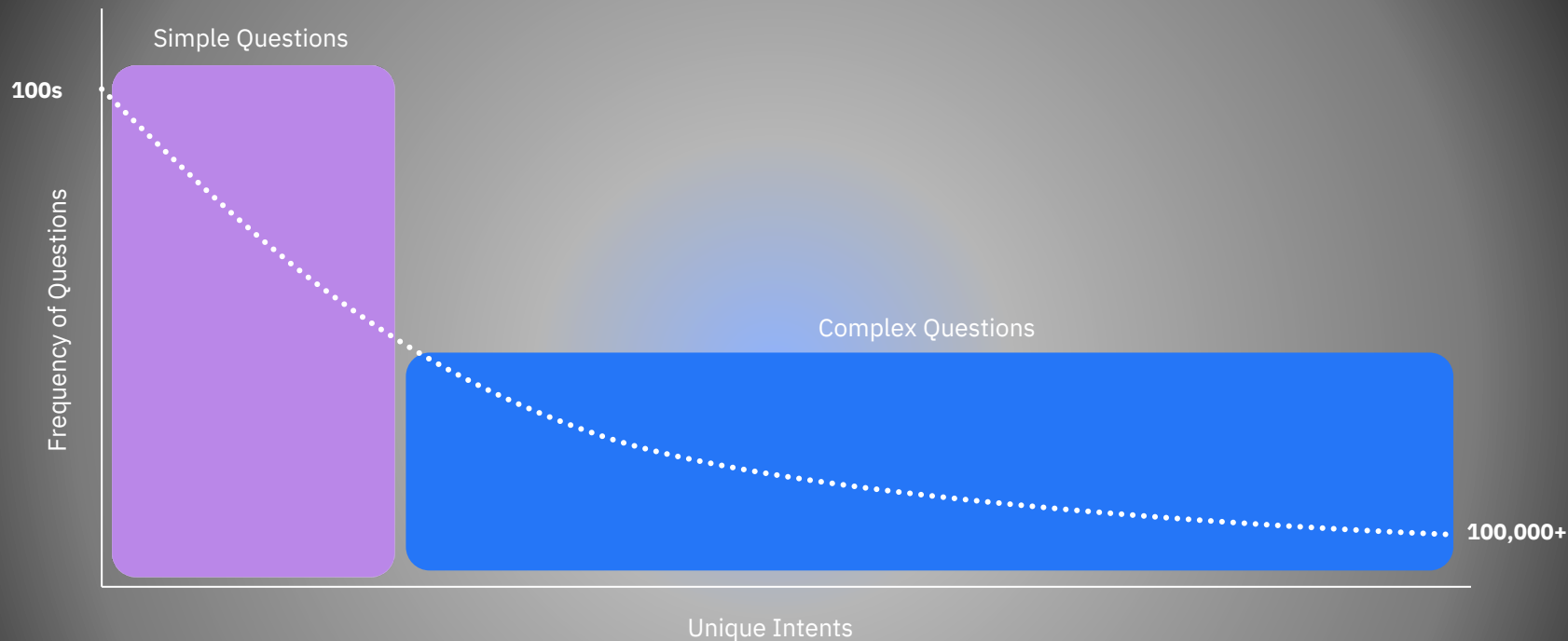
+

Watson Discovery

Watson uses reasoning strategies that focus on the language and context of the **question** to answer **simple questions**.

Watson uses reasoning strategies that focus on identifying the most appropriate **answer** for **complex questions** using the context of the entire corpus.

WA + Discovery for all types of Qs



“ My exhaust is making a rattling sound, how do I troubleshoot the problem? ”

“ How do I turn on the headlights ”

“ How do I turn on my device ”

“ My device won't power on. I am concerned if I do a reset that I will lose my data. What should I do? ”

Watson Assistant

Natural Language Understanding

Watson Assistant

Intent-driven, not rules

Watson Assistant
understands
the user's intent

- Handcrafted rules unable to scale and do not benefit from data
- Leverages state of the art Deep Learning techniques to derive intent
- Learns over time based on usage

I'm frustrated, I haven't been able to login
into your online billing system...

Intent Password Reset

“ I forgot my password...”

“ How do I get a new password? ”

“ Can’t login into your site... ”

“ My login isn’t working, please help... ”

“ Can you reset my password? ”

**“I’m frustrated,
I haven’t been
able to login
into your online
billing system”**

Extract other key information from a question

Intent

Password Reset

“I’m frustrated,
I haven’t been
able to login
into your **online
billing system**”

Extract other key information from a question

Intent

Password Reset

Entities

Online Billing System

“**I’m frustrated,**
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able to login
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Extract other key information from a question

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Emotional Tone

Anger → Leverages Watson Tone Analyzer

**“I’m frustrated,
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billing system”**

Extract other key information from a question

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Emotional Tone

Anger → Leverages Watson Tone Analyzer

Context

Bill Smith, 47 / Gold Member

Context

Mobile

Take Action

Responses Come in Different Forms

Question

How do I reset my password?

Dialog

Someone has stolen my credit card.

Deflect

Where is the nearest store?

Map

I need to pay my outstanding invoice.

App Nav

Can I pay my bills using my credit card?

Answer Retrieval

I want to cancel my service.

Next Best Action

I need to add a child to my data plan.

Next Best Action

Response

Guide the user through a set of steps

Transfer to human agent

Application launches map with directions

Bring user to pay bill screen

Bring back an answer

Present customer retention offer

Present a cross-sell / upsell offer

Watson Assistant

Demos

Customer Care Virtual Agent Demo System

The image shows a composite of a website header and a chat interface. The website header for ABC Bank includes navigation links for Credit Cards, Banking, Lending, and Investing. The main banner promotes credit cards with the text "Choose the right credit card for you" and a subtext about cash back, rewards, and intro rates. Below the banner are two promotional tiles: "No Late Fees Ever" featuring a credit card and "Get Your Credit Score" featuring a hand using a smartphone. The virtual agent chat interface on the right has a dark blue header with the ABC Bank logo and a hamburger menu. A user message "I'm traveling" is shown in a white bubble. The agent's response "Did you mean:" is in a dark blue bubble. Below it are three white buttons: "Set up a Travel Alert", "Look for travel tips", and "None of the above". At the bottom of the chat is a text input field with the placeholder "Ask a question".

ABC Bank

Credit Cards Banking Lending Investing

Choose the right credit card for you

Whether you want cash back, great rewards, or a low intro rate, the choice is all yours.

No Late Fees Ever

Get Your Credit Score

Set up a Travel Alert

Look for travel tips

None of the above

Ask a question

<https://watson-assistant-demo.ng.bluemix.net/>

<https://yourbank-demo.us-south.cf.appdomain.cloud/>

Watson Assistant

Exercise

Watson Assistant

Reference

Watson SDKs

Android

Java

Node.js

Python

.NET

Salesforce APEX

Swift

Unity

Education and code recipes

Watson Assistant Sample Apps (with code): <https://ibm.biz/BdZ4kPIBM>

Code Patterns: <https://developer.ibm.com/code/patterns/>

IBM Code Bot Exchange: <https://developer.ibm.com/code/exchanges/bots/>

IBM Code How-Tos: <https://github.ibm.com/IBMCCode/howtos>

CognitiveClass.ai course: <https://cognitiveclass.ai/courses/how-to-build-a-chatbot/>

Coursera course: <https://www.coursera.org/learn/how-to-build-your-own-chatbot-without-coding>

Cloud Foundry: <https://www.cloudfoundry.org/the-foundry/ibm-watson-conversation/>

DeveloperWorks community: <https://www.ibm.com/developerworks/>

IBM Watson Blog: <https://medium.com/ibm-watson>

WordPress plugin: <https://wordpress.org/plugins/conversation-watson/>

..and much more.