



#ibmdevconnect

Watson Cognitive Services

Machine learning and AI

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LANGUAGE



Conversation



Document Conversion



Language Translator



Natural Language
Classifier



Natural Language
Understanding



Personality Insights



Retrieve and Rank



Tone Analyzer

SPEECH



Speech to Text



Text to Speech

VISION



Visual Recognition

DATA INSIGHTS



Discovery



Discovery News



Tradeoff Analytics

Watson Conversation Service

With the IBM Watson™ Conversation service you can create virtual agents and bots that combine machine learning, natural language understanding, and integrated dialog tools to provide automated customer engagements.

Uses for the Conversation Service

Customer Service



Add a chatbot to your website that automatically responds to your customers' most frequently asked questions

Mobile Apps



Allow your customers to control your mobile app using natural language virtual agents

Messaging Channels



Build Twitter, Slack, Facebook Messenger, and other messaging platform chatbots that interact instantly with channel users

Internet-of-Things



Power connected devices to understand natural language and respond to your users' commands

Robots



Power your robots with natural language understanding and conversational capabilities

Watson Conversation Service

Features

Intents – Identifies the high level features that the chat bot will provide.

Entities – Identifies “parameters” that can provide additional detail on the intent.

Dialog – Uses Intents and Entities to define a conversation and personalize the conversation’s responses for a specific user.

Benefits

Simplicity: The Conversation service has a simple graphical interface that lets you get started quickly.

Collaboration: You can invite others to collaborate and build your conversation that much faster.

IBM Platform: Watson Conversation is hosted on IBM's fully scalable cloud-based Bluemix platform.

<https://www.ibm.com/watson/developercloud/conversation.html>

Natural Language Understanding

- With Natural Language Understanding, developers can analyze semantic features of text input.
- Extract following from a text/html or a public url using the API call.
 - categories
 - concepts
 - emotion
 - entities
 - keywords
 - metadata
 - relations
 - semantic roles and
 - Sentiment
- Custom model can be configured using Watson knowledge Studio.
- Endpoint - GET /Analyze

<https://www.ibm.com/watson/developercloud/doc/natural-language-understanding/index.html>

Watson Tone Analyzer

- The IBM Watson™ Tone Analyzer service uses linguistic analysis to detect emotional, social, and language tones in written text both at document and sentence levels.
- Tone Analyzer endpoints.

- **General purpose endpoint**

Linguistic analysis to detect three types of tones in written text:

- Emotion (anger, sadness, joy, disgust, fear)
 - Social tone (openness, conscientiousness, extraversion, agreeableness, emotional range)
 - Language tone (analytical, confidence, tentative)

- **Customer engagement endpoint**

- The Tone Analyzer customer engagement endpoint analyzes the tone of customer service and support conversations.
 - It provides analysis in the form of 7 tones as given in the table.

<https://www.ibm.com/watson/developercloud/tone-analyzer.html>

Tone / ID	Description
Excited	Showing personal enthusiasm and interest
Frustrated	Defined as feeling annoyed and irritable
Impolite	Being disrespectful and rude
Polite	Defined as rational, goal-oriented behavior
Sad	Regarded as an unpleasant passive emotion
Satisfied	An affective response to perceived service quality
Sympathetic	An affective mode of understanding that involves emotional resonance

Visual Recognition

Evaluate

Analyze images for scenes, objects, faces, colors, food, and other subjects that can give you insights into your visual content.

<https://visual-recognition-demo.mybluemix.net>

Train

Create and train your custom image classifiers using your own collections.

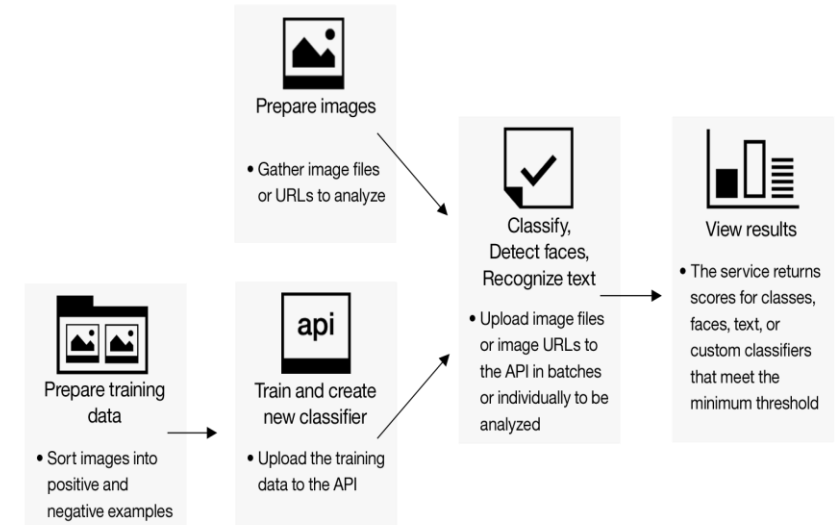
<https://visual-recognition-demo.mybluemix.net/train>

Search for Similarity

Submit an image to search your corpus for similar images.

<https://similarity-search-demo.mybluemix.net>

Using the Visual Recognition Service



- Manufacturing**: Use images from a manufacturing setting to make sure products are being positioned correctly on an assembly line
- Visual Auditing**: Look for visual compliance or deterioration in a fleet of trucks, planes, or windmills out in the field, train custom classifiers to understand what defects look like
- Insurance**: Rapidly process claims by using images to classify claims into different categories.
- Social listening**: Use images from your product line or your logo to track buzz about your company on social media
- Social commerce**: Use an image of a plated dish to find out which restaurant serves it and find reviews, use a travel photo to find vacation suggestions based on similar experiences, use a house image to find similar homes that are for sale
- Retail**: Take a photo of a favorite outfit to find stores with those clothes in stock or on sale, use a travel image to find retail suggestions in that area

Differentiation between Watson and Search Engine

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 or outcome



Analyzes evidence



Computes confidence



Delivers response, evidence and confidence



Considers answers and evidence

Architecture pattern for a Watson API based solution

