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Cloud Native Thursdays

Data Science Fridays

Red Hat OpenShift Saturdays

AI Sundays

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IBM Developer



# Discover hidden Facebook usage insights with Watson

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# Agenda

## **AI vs ML**

Main Challenges  
AI vs. IA

## **IBM Watson Studio**

### **Watson NLU**

What is NLP  
Challenges in NLP

## **Watson Visual Recognition**

Focus of Visual Recognition  
Uses of Visual Recognition

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## **IBM Cognos Analytics**

Data Visualization

## **Hands-On**

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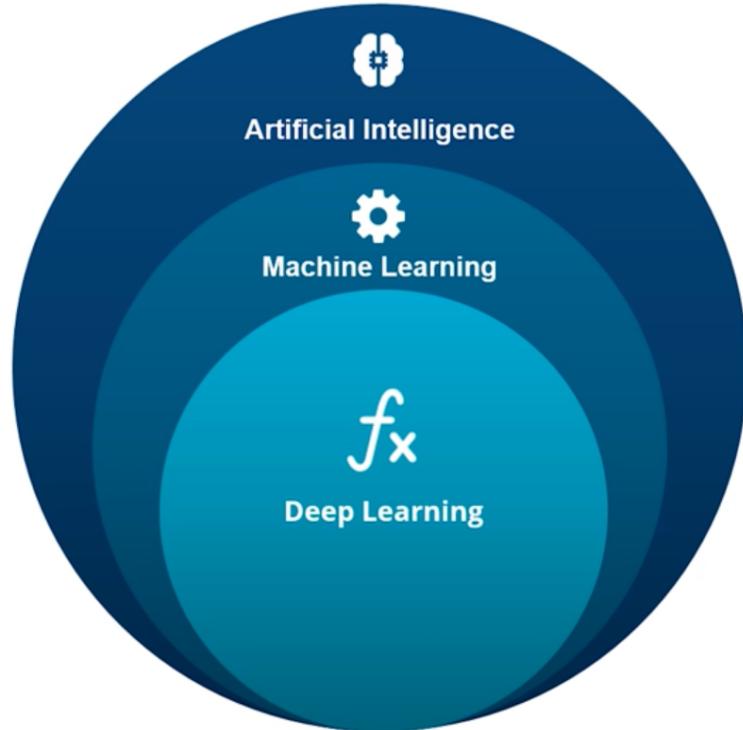
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# Artificial Intelligence vs Machine Learning

- **Artificial Intelligence** is the making of intelligent machines by enabling the machine to copy human behaviours.
- **Machine learning** is subset of AI uses statistics to enable machines to improve with experience.
- **Deep learning** is subset of machine learning that enables computers to solve more complex problems.

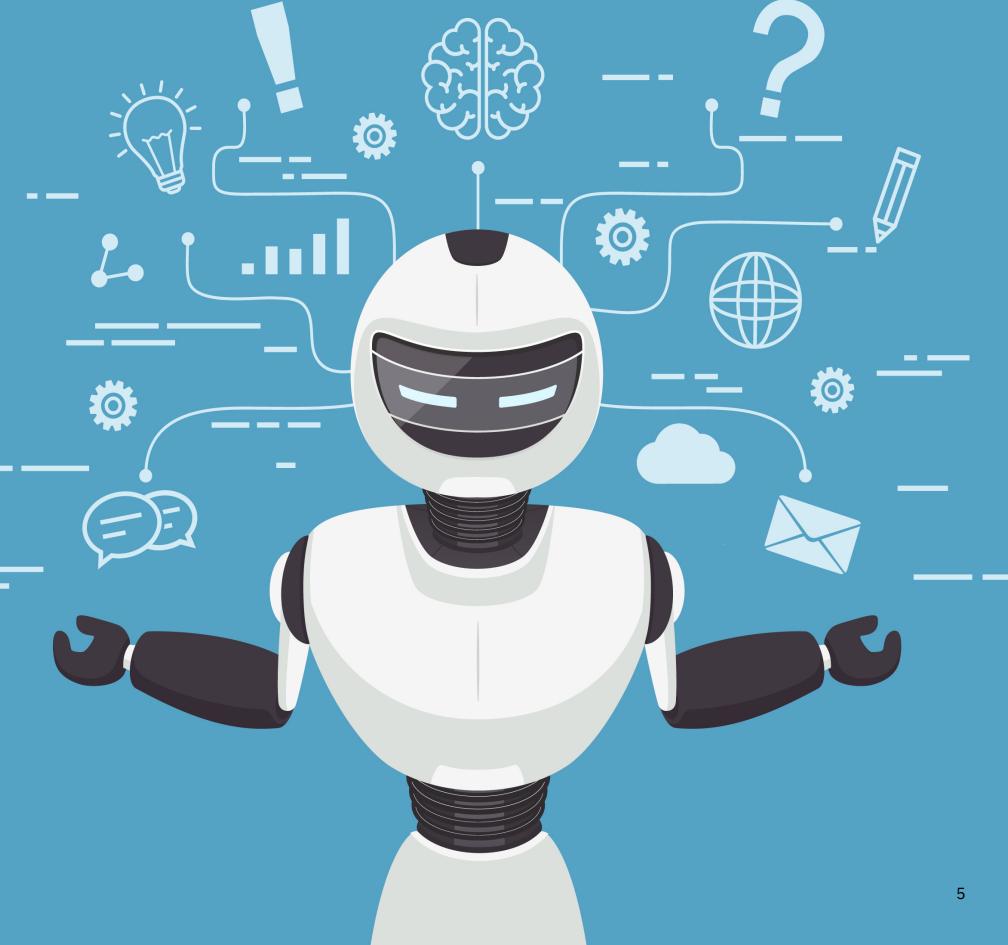
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# Main Challenges These Days

- High demand for data scientists and ML engineers
- Lack of skills to meet the demand
- Traditional ML techniques are time consuming and require a lot of effort

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# AI vs. IA

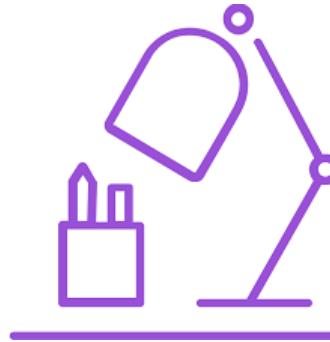
## Artificial Intelligence

- Capability of a machine learning model to imitate human behavior
- Allows machines to be autonomous
- Examples:
  - Chatbots (Customer Service Agent)

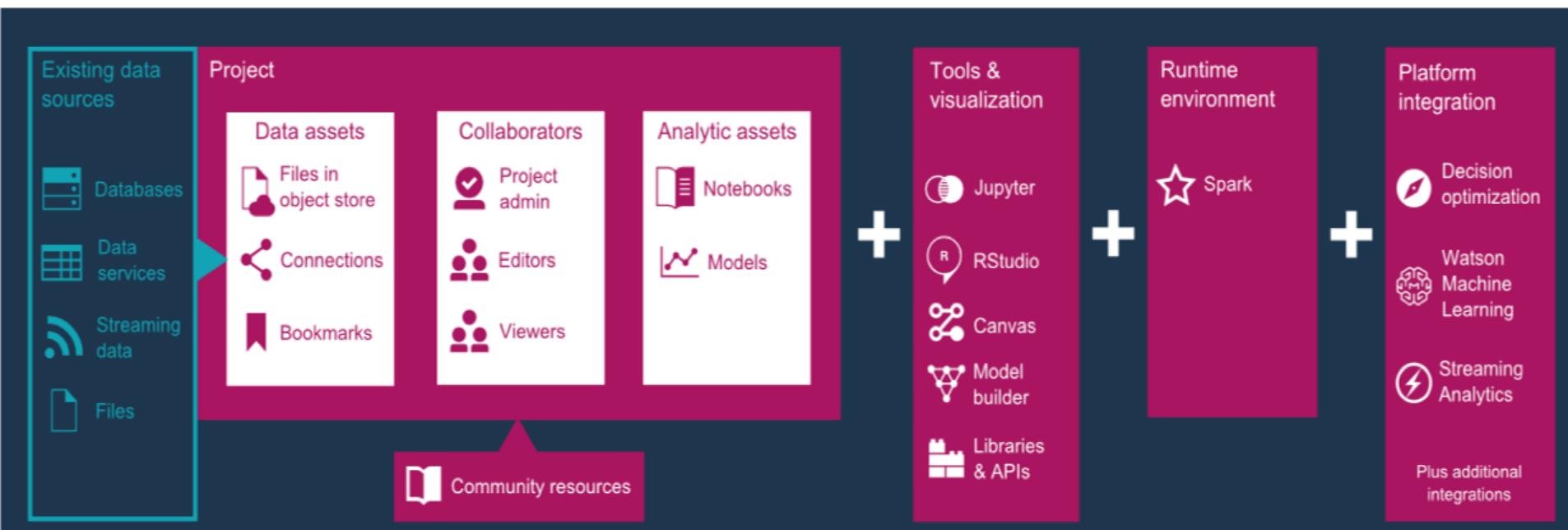
## Intelligence Assistants

- Designed to enhance human intelligence
- Allows humans to amplify their intelligence by providing insights to solve problems
- Examples:
  - Collecting data
  - Visualizations

# IBM Watson Studio



# Watson Studio

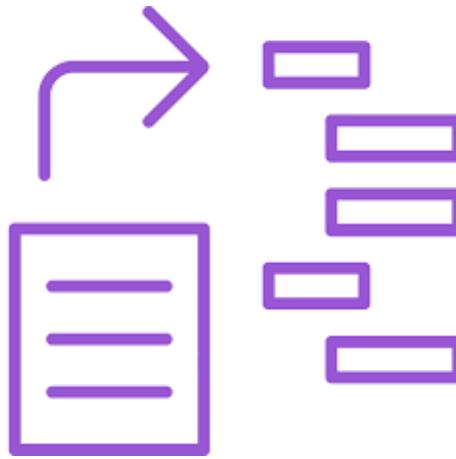


# Watson Natural Language Understanding



# What is NLP?

In NLP, we study methods to perform useful tasks by processing natural language. Example applications: predictive text on mobile phones, search engines, speech recognition, etc.



# Challenges in NLP

## Morphology

union + ized? un + ionized?

## Syntax

Squad helps dog bite victim. (Does Squad help dog or victim?)

## Ambiguity

Ability of having more than one meaning or being understood in more than one way

## Phonetics and phonology

"I scream is delicious" vs. "ice cream is delicious"

## Semantics

Jack invited Mary to the Halloween **ball**. (ball could be “dance” or a “decoration ball”)

## Discourse

Merck & Co. formed a joint venture with Ache Group, of Brazil. **It** will be called Prodome Ltd. (“it” refers to what?)

## The Problem:

Inability to mine unstructured data and lack of skills in machine learning

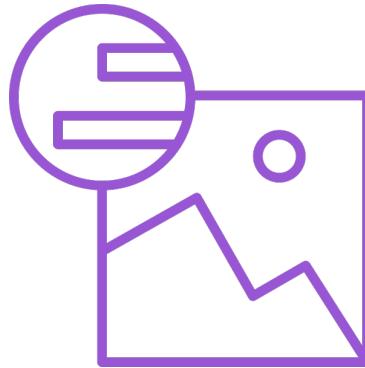
## The Result

Lost revenue, missed opportunities, increased costs

## The Solution

The IBM Watson Natural Language Understanding service enables developers to extract insights from unstructured text to power a new generation of cognitive apps.

# Watson Visual Recognition



# Watson Visual Recognition focuses on

## Identification

Watson Visual Recognition **identifies** objects and people.



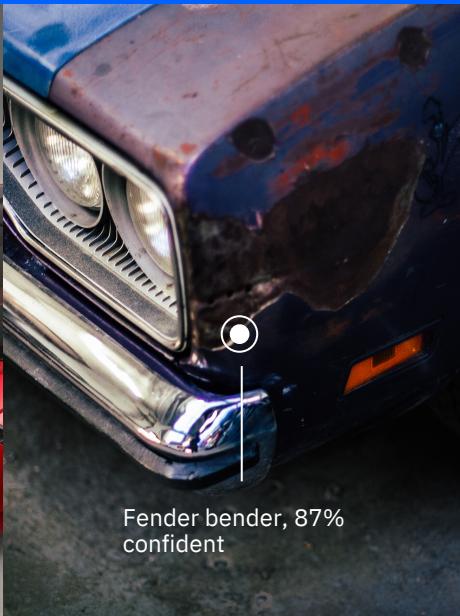
## Categorization

Watson Visual Recognition **categorizes** for easy organization.



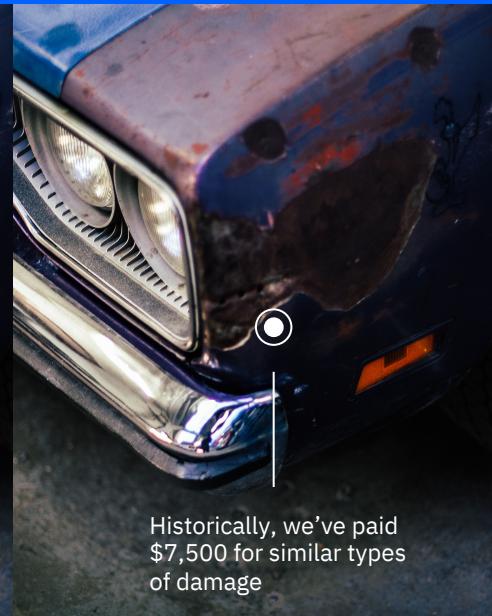
## Assessment

Watson Visual Recognition **assesses** for better problem-solving.



## Recommendation

Watson Visual Recognition for faster decision-making.



# Watson Visual Recognition is used for

## Visual Inspections

An Insurance company builds an image recognition solution to automate visual inspections for damage, defects, and quality assurance.

## Social Media Listening

An Advertising agency analyzes visual content in social media posts to understand content, sentiment, and trends.

## Demographics

A Retailer uses face detection capabilities to gather age and gender estimates of its shoppers.

## Resource Identification

A Mining & Minerals company uses image recognition to automatically identify assets and sites in satellite imagery.

## Content Enrichment

A Media company uses image recognition to automatically append metadata to visual content, turning dark data into searchable content.

## Calorie Counting

A Health & Nutrition company automatically identifies foods and meals in order to more quickly return nutrition facts.

# IBM Cognos Analytics



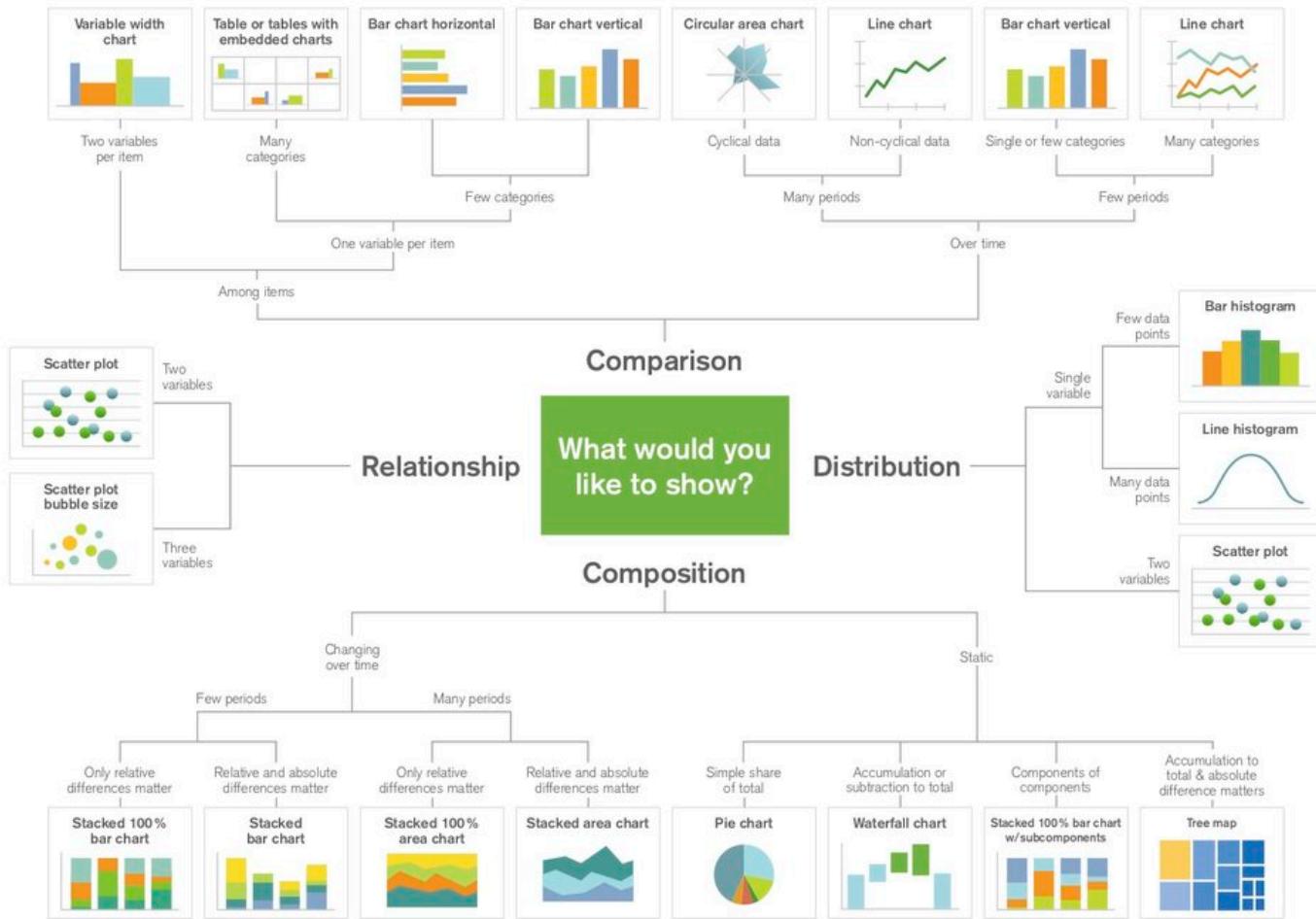
# Data Visualization



## *Why Data Visualization?*

- Explore data
- Communicate with others, showing them meaningful results of analysis
- Share unbiased representation of data

*A way to show a complex data in a form that is graphical & easy to understand.*

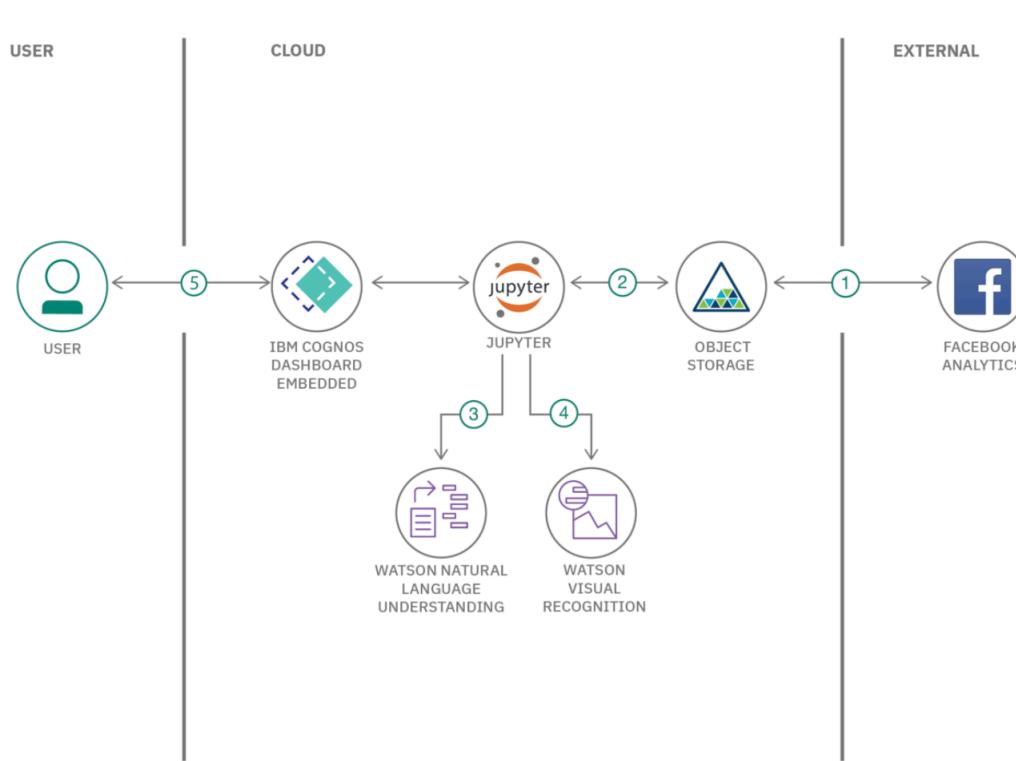


# Hands On

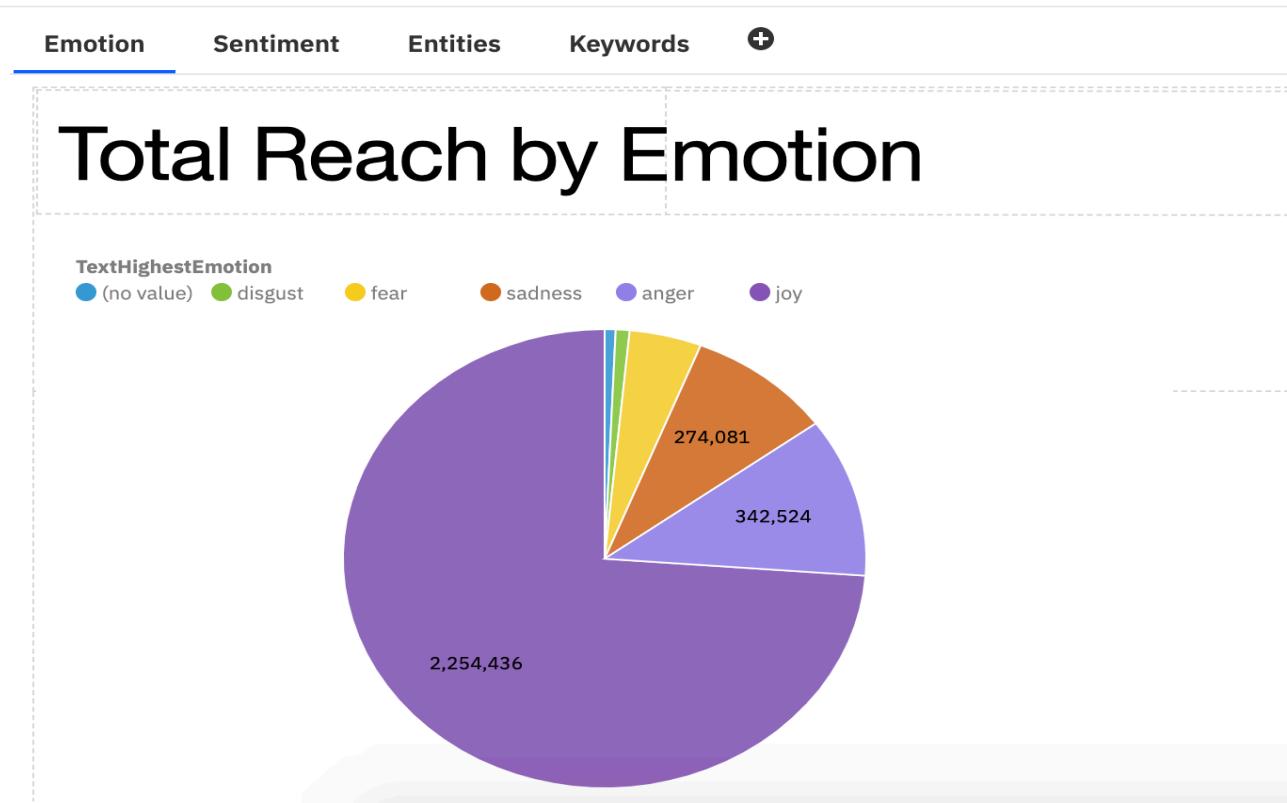
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- Follow along for the hands-on  
[https://ibm.biz/FB\\_HandsOn](https://ibm.biz/FB_HandsOn)
- Workshop  
Slides: [https://ibm.biz/FB\\_Resources](https://ibm.biz/FB_Resources)



# Architecture Flow



# Outcome



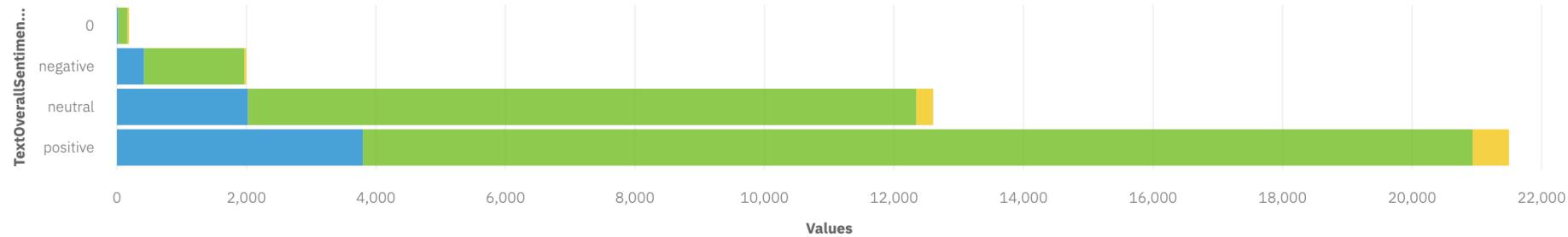
# Outcome

Emotion   Sentiment   Entities   Keywords   +

## Likes, Shares, and Comments by Sentiment

### Measures group (3)

● Lifetime Talking About This (P... ● Lifetime Talking About This (P... ● Lifetime Talking About This (P...

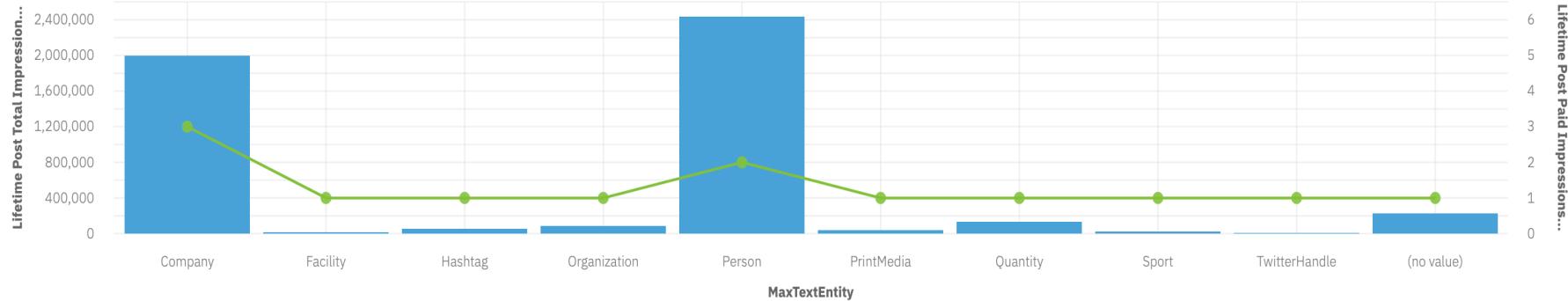


# Outcome

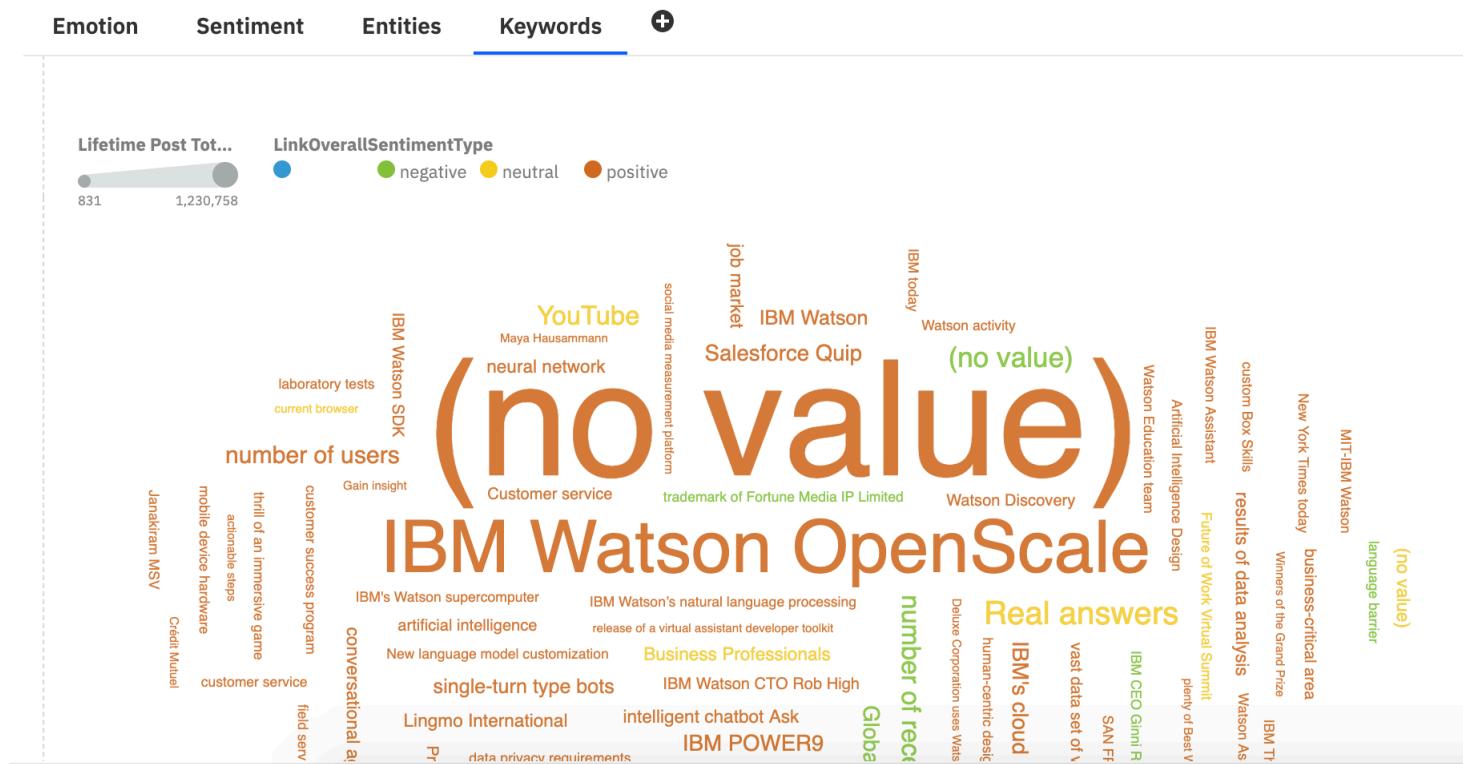
Emotion Sentiment Entities Keywords +

## Impressions by Entity

● Lifetime Post Total Impressions... ● Lifetime Post Paid Impressions...



# Outcome



Digital Developer Conference

# Hybrid Cloud

## Start your journey to OpenShift certification

Developer experts from IBM, Red Hat, and more show you how to build smart and secure applications using open source technologies, frameworks, and platforms like Kubernetes, Tekton, and Red Hat® OpenShift® on IBM Cloud®. Get the skills needed to migrate your cloud and modernize your applications starting:

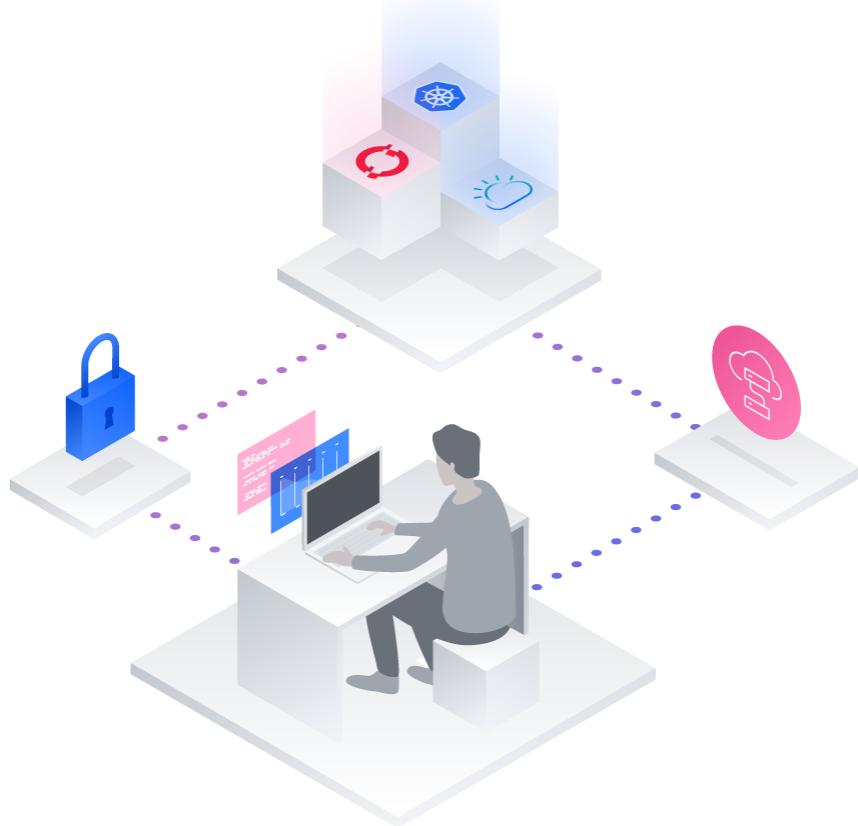
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**Hands-On Lab** ([https://ibm.biz/FB\\_HandsOn](https://ibm.biz/FB_HandsOn))

**Workshop Resources:** ([https://ibm.biz/FB\\_Resources](https://ibm.biz/FB_Resources))

**IBM Developer** (<https://developer.ibm.com/>)

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Thank you.

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