Sentiment Analysis using Cognitive Services in Power BI

http://aka.ms/sqlslack

Indira Bandari, BI Consultant, Healthlink

Indira Bandari

BI Consultant

Mytechlearning.blogspot.com

/indirabandari

@indupriya9

indupriya9@yahoo.com

Experience

I have a Masters degree in Statistics and am passionate about data, analytics and learning data science.

Business Intelligence Consultant with over 15 years experience in designing and developing data warehouses and analytical solutions

Speaker

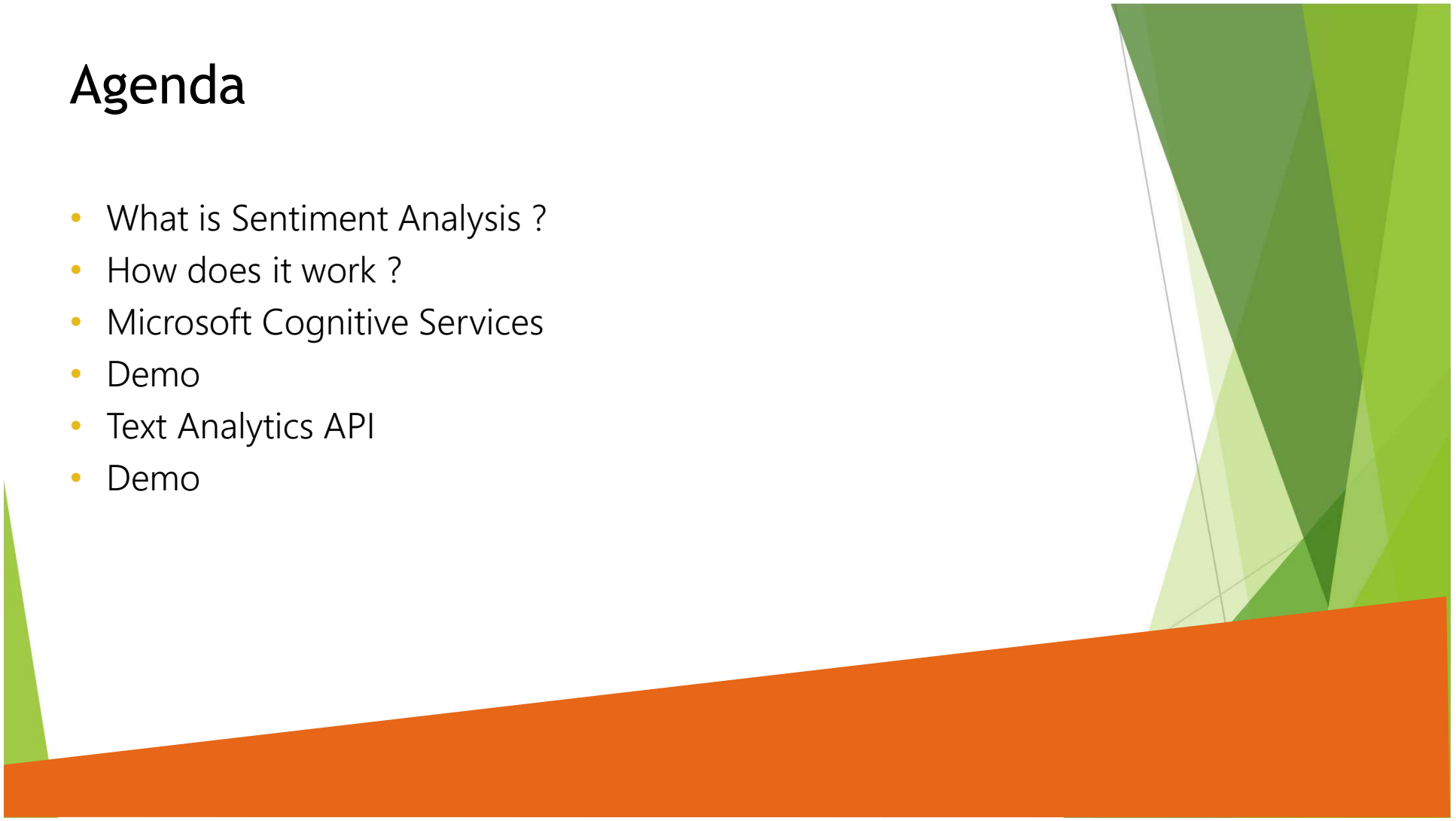
Speaker at Local Users Groups and Virtual Webinars, and SQL Saturdays in New Zealand

Community

- Co-organiser for NZ Power BI User Group and SQL Saturday
- Co-orgnaiser for Auckland AI Meetup
- Volunteering and sharing my knowledge is my passion. In my pass time I teach game development for primary school kids. Teach database concepts and data visualisations to 11-16 year olds.

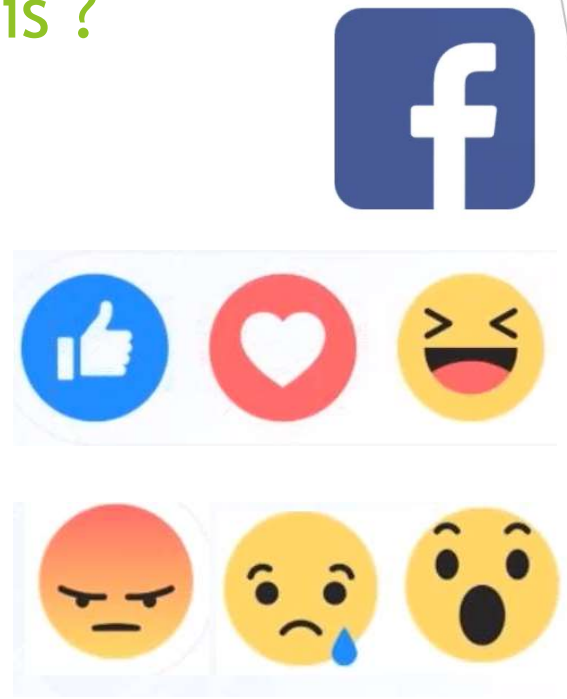
Agenda

- What is Sentiment Analysis ?
- How does it work ?
- Microsoft Cognitive Services
- Demo
- Text Analytics API
- Demo

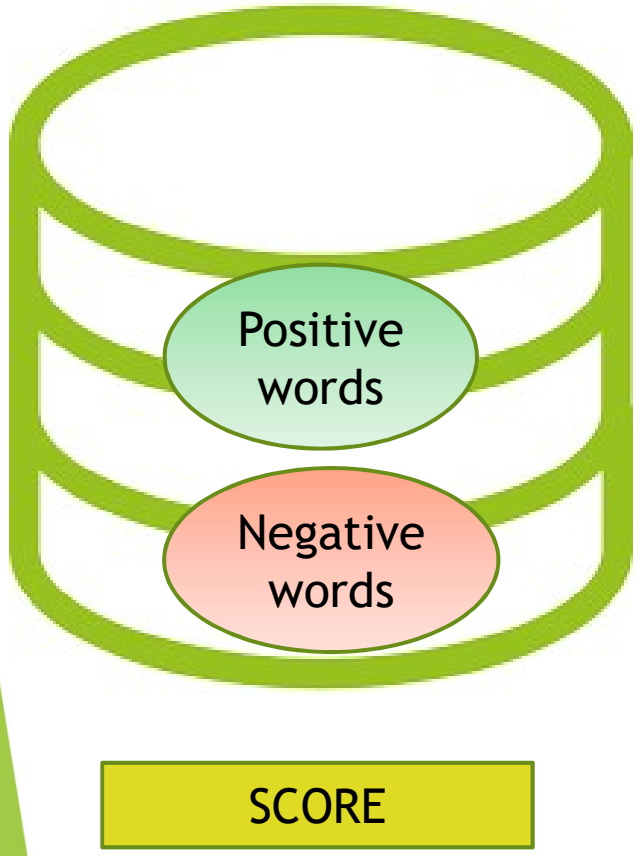


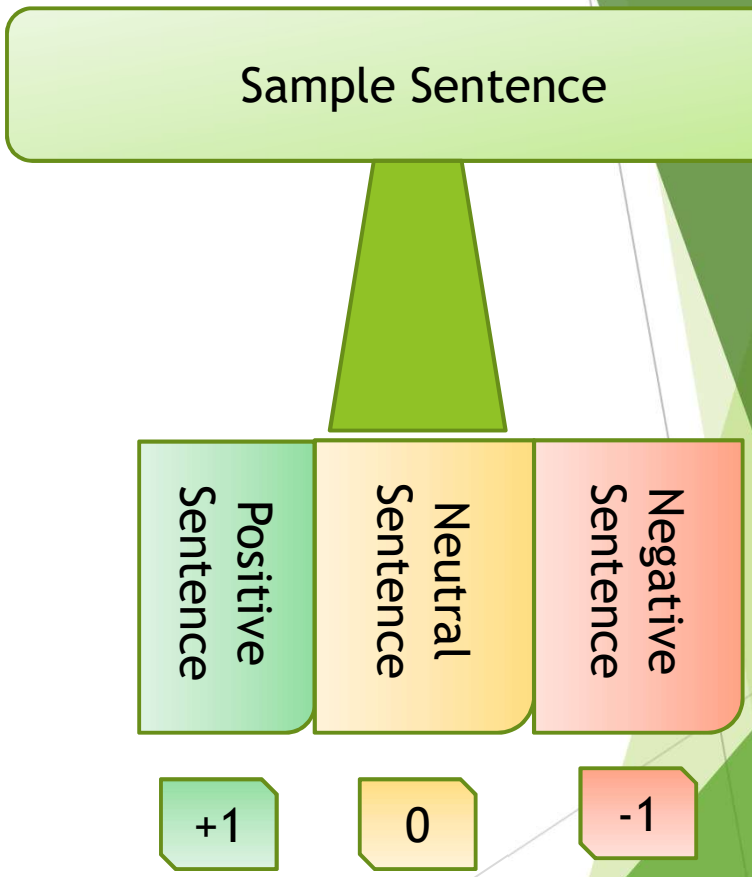
What is Sentiment Analysis ?

Sentiment Analysis is the process of determining whether a piece of writing is positive, negative or neutral. It is a form of Text Analysis that measures how positive or negative the text is.

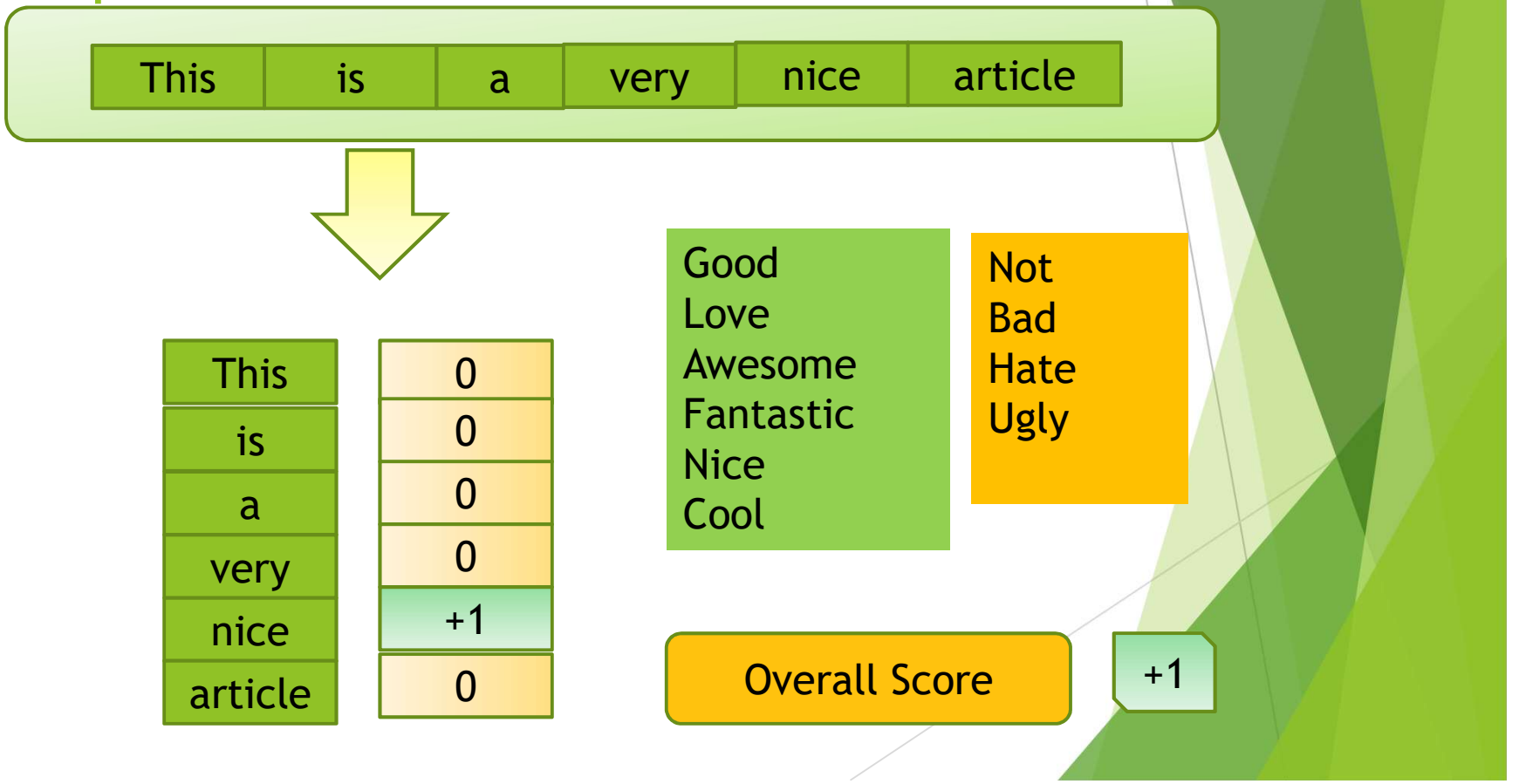


How does it work ?

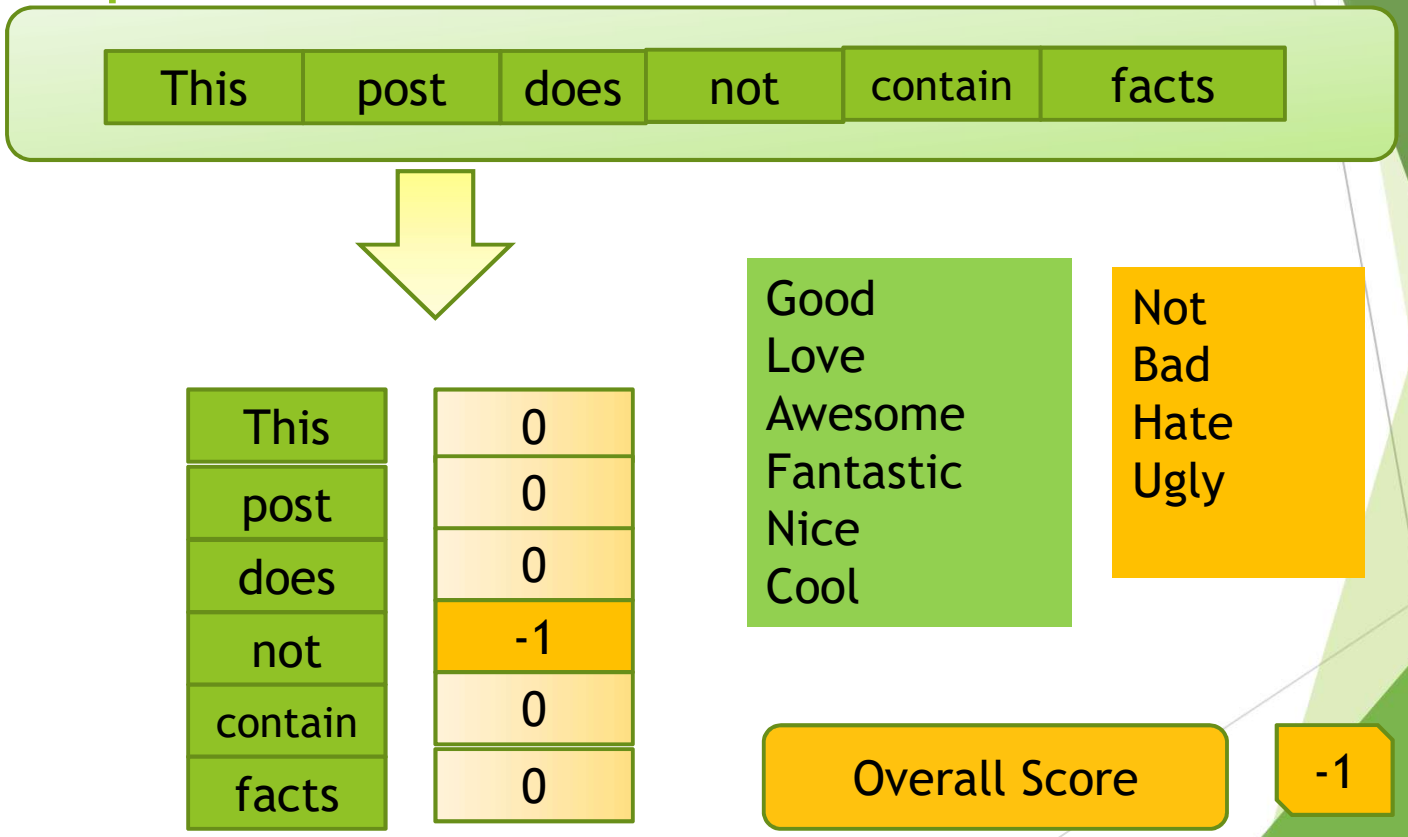

Positive words
Negative words
SCORE


Sample Sentence
Positive Sentence
Neutral Sentence
Negative Sentence
+1
0
-1

Example 1


This
is
a
very
nice
article
This
is
a
very
nice
article
0
0
0
0
+1
0
Good
Love
Awesome
Fantastic
Nice
Cool
Not
Bad
Hate
Ugly
Overall Score
+1

Example 2


This post does not contain facts
This
post
does
not
contain
facts
0
0
0
-1
0
0
Good
Love
Awesome
Fantastic
Nice
Cool
Not
Bad
Hate
Ugly
Overall Score
-1

Cognitive Services

http://microsoft.com/cognitive

Vision

Image-processing algorithms to smartly identify, caption, index, and moderate your pictures and videos.

Knowledge

Map complex information and data in order to solve tasks such as intelligent recommendations and semantic search.

Language

Allow your apps to process natural language with pre-built scripts, evaluate sentiment and learn how to recognize what users want.

Speech

Convert spoken audio into text, use voice for verification, or add speaker recognition to your app.

Search

Add Bing Search APIs to your apps and harness the ability to comb billions of webpages, images, videos, and news with a single API call.

Demo Cognitive Services

Language

Text Analytics

Named Entity Recognition

Key phrase extraction

Text sentiment analysis

Translator Text

Automatic language detection

Automated text translation

Customizable translation

Bing Spell Check

Web-scale, multi-lingual spell checking

Contextual spell checking

Content Moderator

Explicit or offensive content moderation for images and videos

Custom image and text lists to block or allow matching content

Tools for including feedback from human moderators

Language Understanding

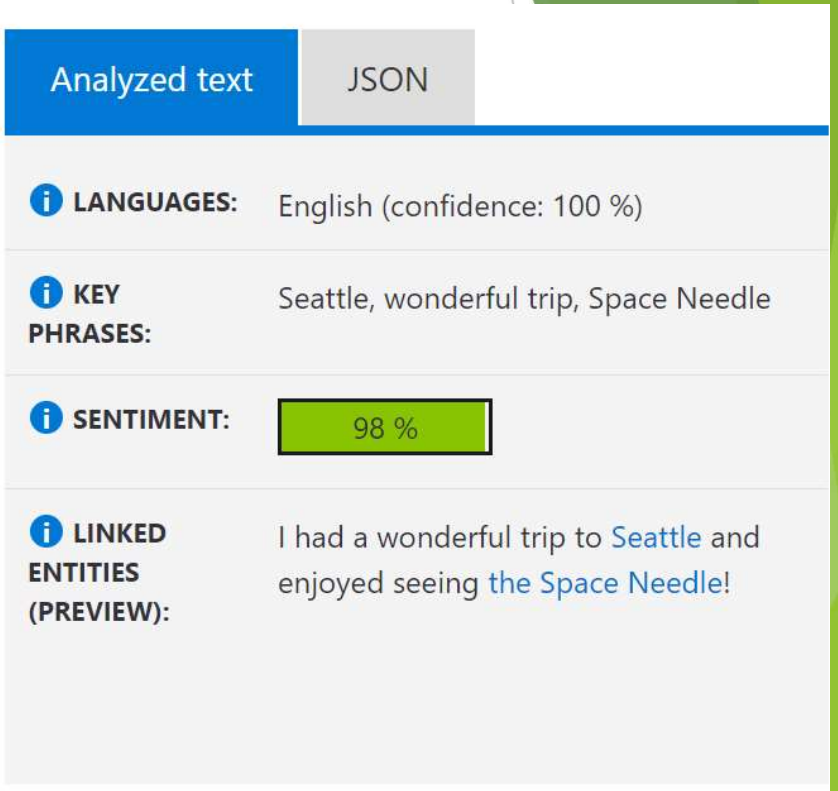
Contextual language understanding

Text Analytics API

Text Analytics API

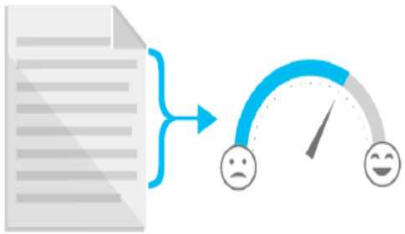
I had a wonderful trip to Seattle and enjoyed seeing the Space Needle!

Analyze



Sentiment Analysis

- **Returns a score between 0 and 1**
- **Scores close to 1 indicate positive sentiment, and scores close to 0 indicate negative sentiment.**
- **Sentiment score is generated using classification techniques..**



Key phrase extraction

- **Returns a list of strings denoting the key talking points in the input text.**
- **Natural Language Processing toolkit is used.**
- **English, German, Spanish, and Japanese text are supported**

Language Detection

- Returns the languages detected
- Returns a score between 0 and 1
- A score of 1 indicates 100% certainty that the identified language is true.
- A total of 120 languages are supported.

Linked Entities (Preview)

- **Detect all named entities in the text, such as organizations, people, and locations, and more.**
- **Entity Linking disambiguates distinct entities by associating text to additional information on the web.**
- **For example, use it to determine whether a term such as “times” refers to “The New York Times” or “Times Square.”**

Requirements

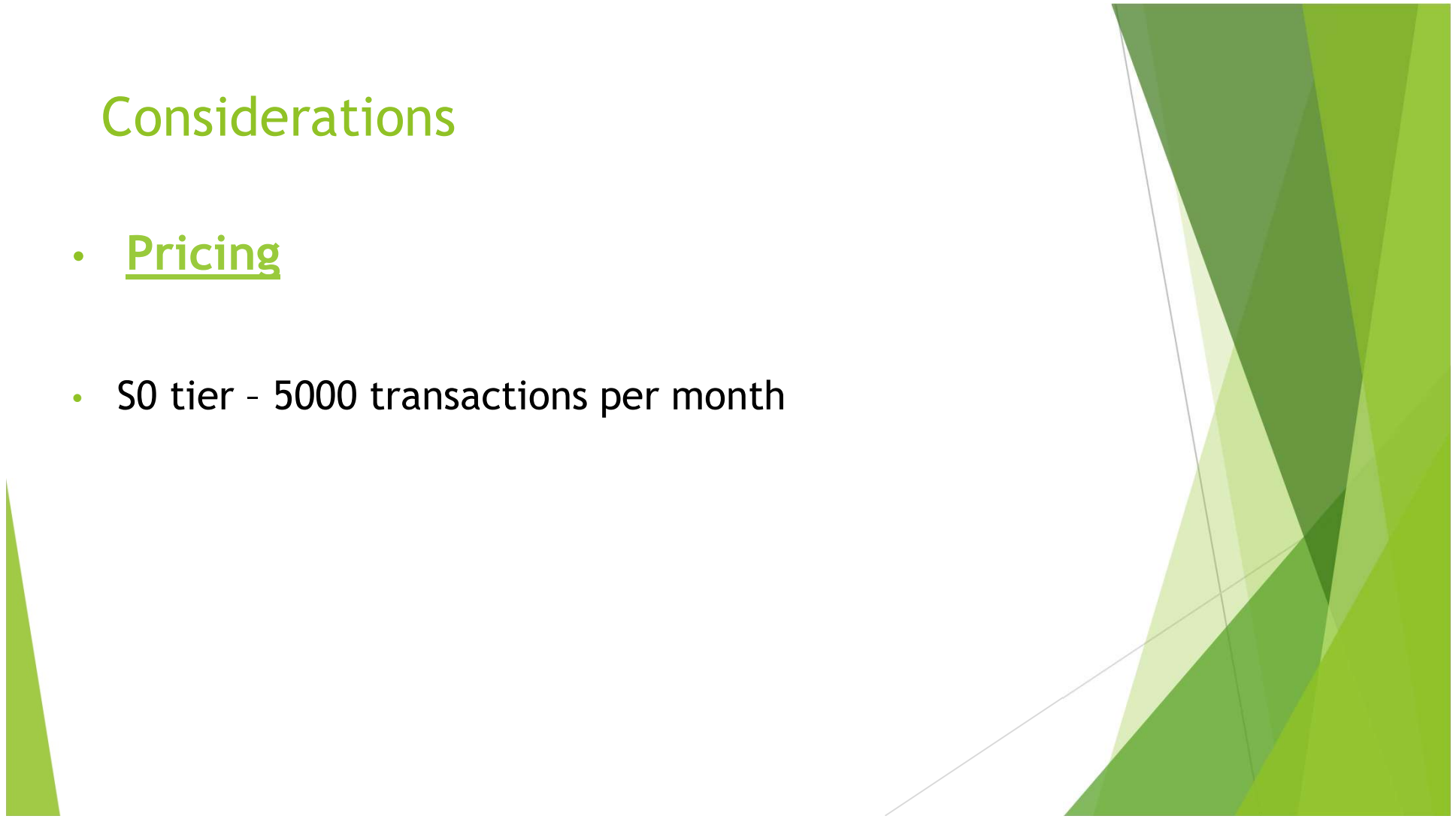
- **A Microsoft Account.**
- **An Azure Account.**
- **A Facebook Account**
- **Cognitive Services API account with the Text Analytics API**. If you don't have one, you can sign up and use the free tier for 5,000 transactions/month
- **Text Analytics access key that was generated for you during sign-up.**
- **Power BI Desktop**

Demo

Considerations

- **Pricing**

- S0 tier – 5000 transactions per month



Resources

- https://docs.microsoft.com/en-us/power-bi/desktop-tutorial-facebook-analytics
- https://www.sqlshack.com/how-to-integrate-power-bi-to-the-facebook-graph-api/

Recap

- What is Sentiment Analysis ?
- How does it work ?
- Microsoft Cognitive Services
- Text Analytics API
- Facebook Sentiment Analysis

Questions?

Thank You