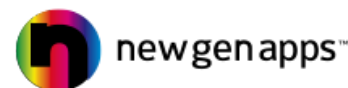




# Sentiment Analysis

Developed By



## The Challenge

The attempt was to do a Sentiment Analysis of Streaming Twitter data for predicting the result of UK General Elections. NewGenApps made their effort to carry out the process in Apache Spark using Cloud Platforms( Microsoft Azure and IBM Bluemix). The challenge was to collect the Twitter feeds and analyze it using a Big Data analysis tool.

## The Solution

Analyzing data streams in real-time is a problem that a lot of businesses can relate to. Sentiment Analysis is the process of 'computationally' determining whether a piece of writing is positive, negative or neutral. It's also known as opinion mining, deriving the opinion or attitude of a speaker.

Using IBM Bluemix cloud, our Apache Spark streaming application collects Twitter data and runs analytics in real time that computes the sentiment value of given Hashtags with emotional tones(provided by Watson Tone Analyzer).

The result is featured on live dashboard web App with dynamic graphics that updates continuously. The Hashtags are related to situations or scenarios that we want to analyze.

Using Microsoft Azure cloud, our Application performs in various steps as:

- Setting up an Azure WebJob to collect Twitter data based on user specified keywords.
- Pumping ingested tweets into Azure Event Hub which can accept millions of events per second.
- Processing incoming tweets with Azure Stream Analytics that stores the raw data in Azure Blob Storage and Azure SQL Database.
- The Stream Analytics job calls an Azure Machine Learning web service to determine the sentiment of each tweet.
- Visualizing real-time metrics about inferred sentiment using Power BI.

Our Sentiment Analysis and Big data Predictions model can be used in various cases from politics to businesses. Companies use it to develop their strategies, to understand customers' feelings towards products or brand, how people respond to their campaigns or product launches and why consumers don't buy some products.

## The Result:

Our Sentiment Analysis and Big Data Prediction model is used in many scenarios to predict and analyze data. This time we used the twitter data to predict the UK General elections.

With regards to the sentiment on Twitter, at first we found that it was the most positive around Labour's Party and some less towards Conservatives party. But as our analysis moved further and number of streaming tweets increased, Conservatives started gaining more positives.

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