# Using AI in Marketing

# Welcome!

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# What We'll Cover:

- Current trends in Consumer behavior during Covid-19
- Demand for Personalisation
- Examples of successful brands using AI
- Demo with FREE graph tools

# eComm phenomena

**The trend toward online shopping with increase from 32% to 37% after the outbreak, illustrating the clear need for a substantial increased investment in this channel.**

**E-commerce has grown more in the past eight weeks than in the decade before that, jumping from 16% to 27% of retail in the US and from 18% to 30% in the UK.**

**70%** of customers now expect more personalized experiences with the brands they interact with

World Economic Forum

# What does personlization means to you?

# Hyper-personalization in Marketing

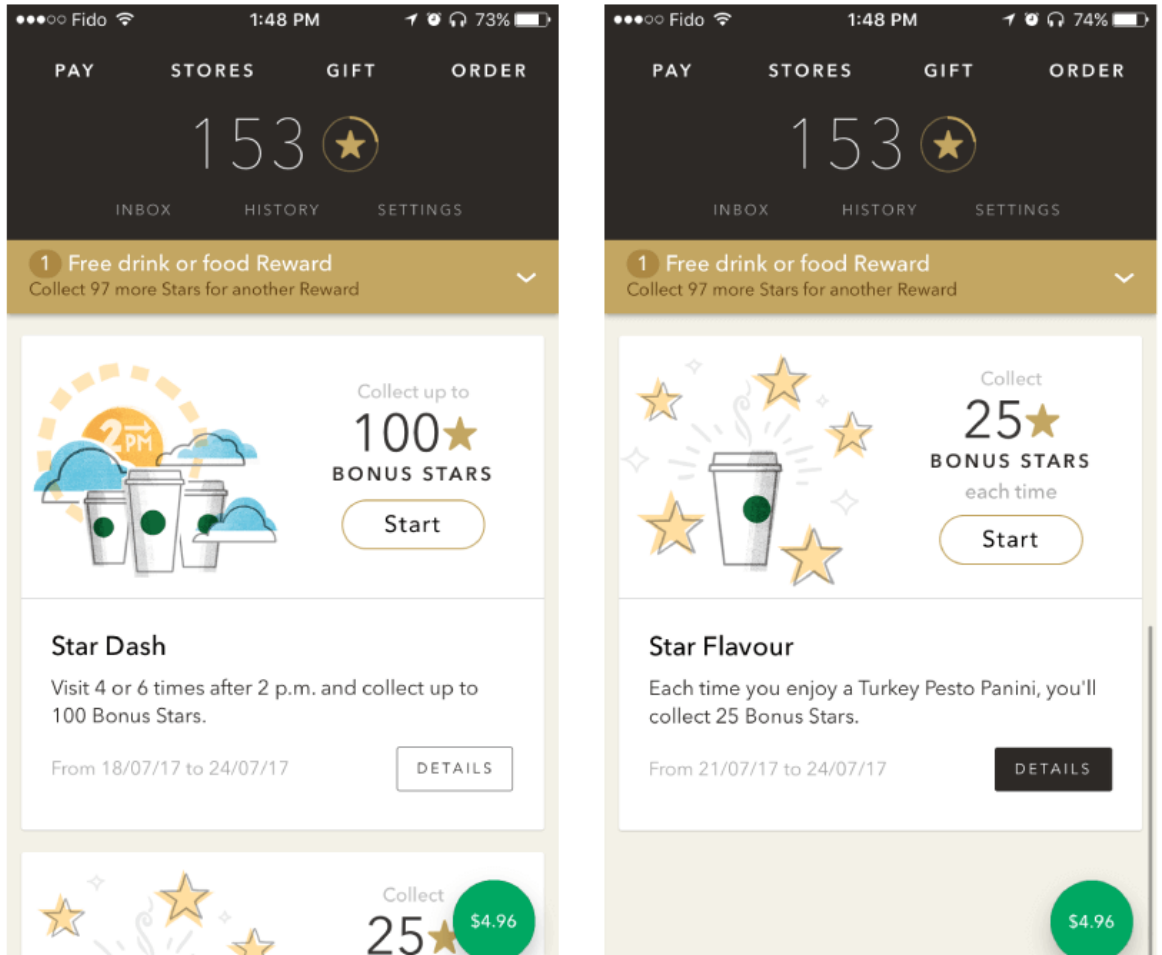
# AI + Real Time Data =

# Hyper-personalisation

# Brands winning at Hyper- personalisation

**Spotify recommends concerts nearby based on user's listening habits**

# Brands winning at Hyper- personalisation




**The Starbuck's mobile app includes specialized offers and communications to their users.**

thebigpurplebook
I thought our relationship was based on trust and a mutual admiration that skews in my favor

# How can AI help with personalized marketing?

# Traditional databases

| itemid | orderid | item | amount |
|---|---|---|---|
| 5 | 1 | Chair | 200.00 |
| 6 | 1 | Table | 200.00 |
| 7 | 1 | Lamp | 123.12 |

| customerid | name | email |
|---|---|---|
| 5 | Rosalyn Rivera | rosalyn@adatum.com |
| 6 | Jayne Sargent | jayne@contoso.com |
| 7 | Dean Luong | dean@contoso.com |

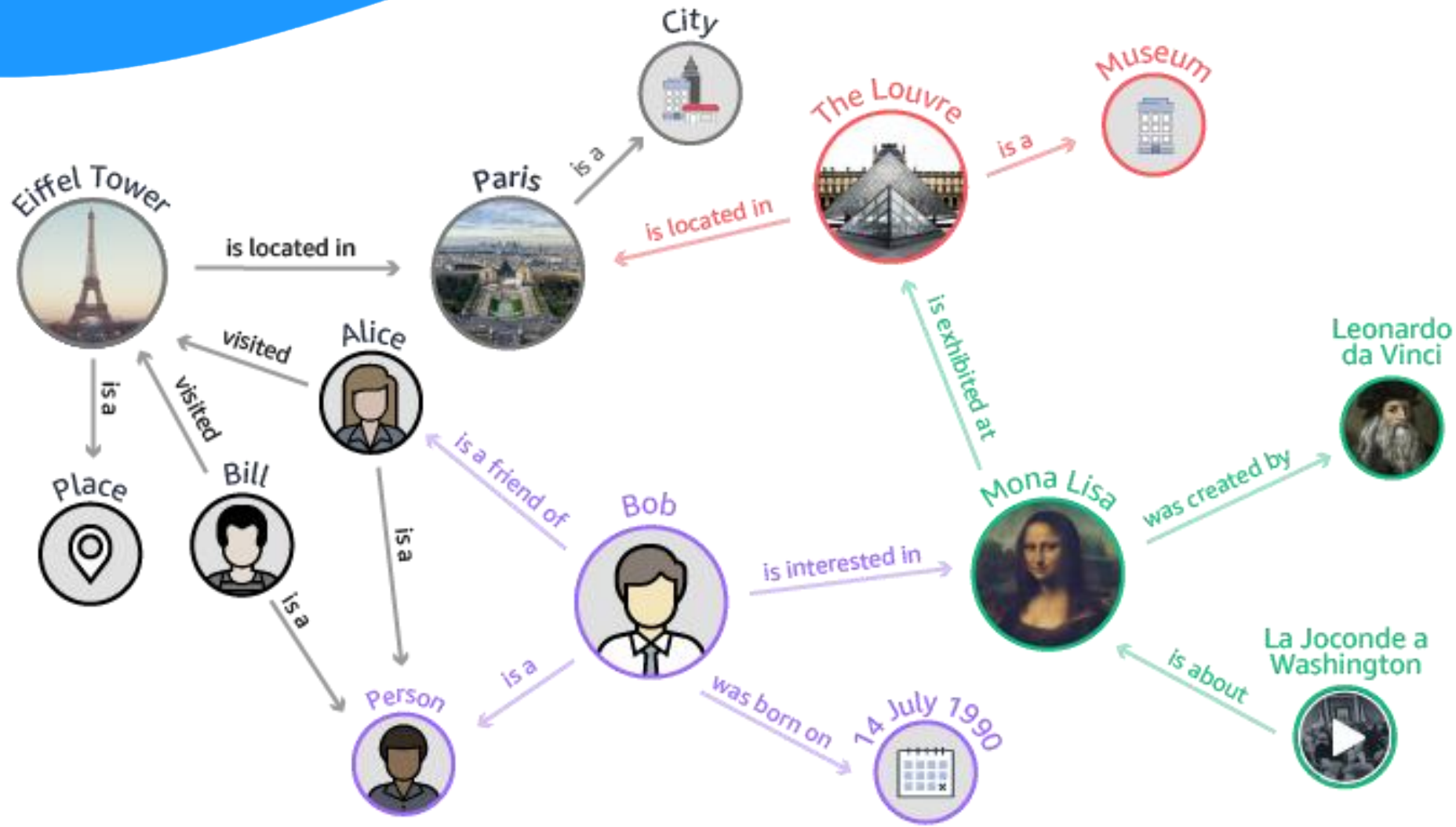
| orderid | customerid | date | amount |
|---|---|---|---|
| 1 | 4 | 11/1/17 | 523.12 |
| 2 | 3 | 11/15/17 | 32.99 |
| 3 | 1 | 11/21/17 | 23.99 |

**Requires joins to retrieve information**

**Slower to find paths**

**Uses batch processing**

**Harder to use real time recommendations**


City
Museum
The Louvre
is a
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Bob
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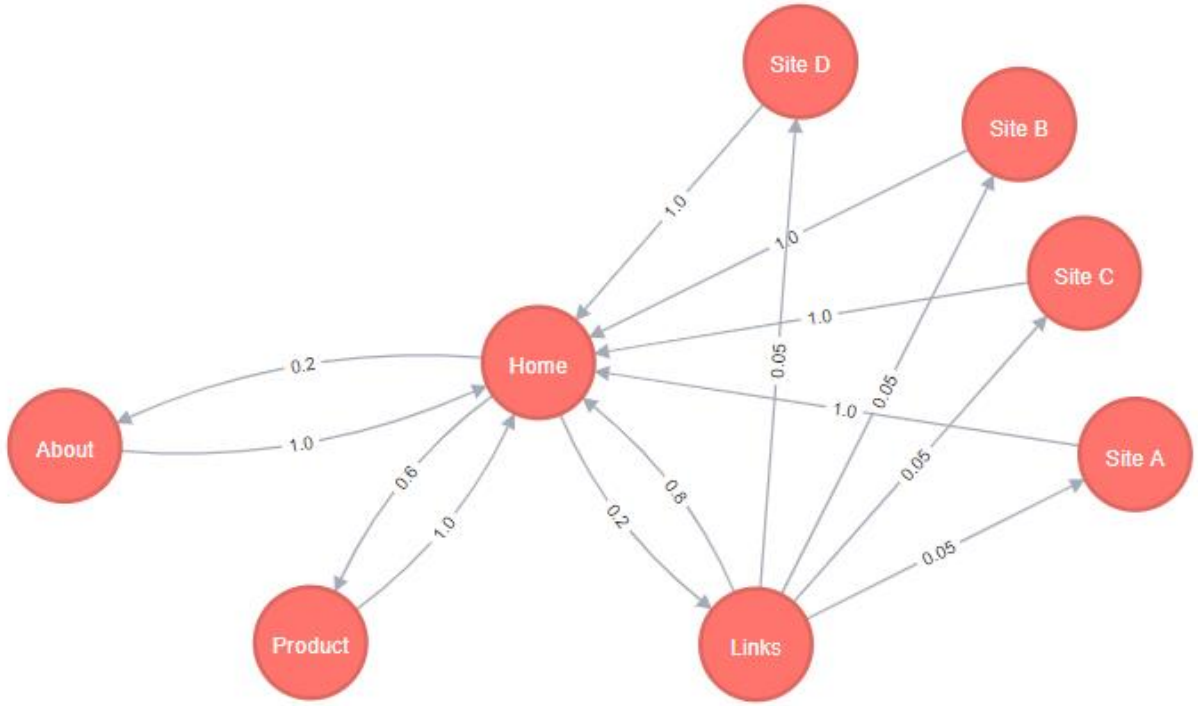
# Google

**They viewed webpages as a graph containing nodes and vertices**

**Google leveraged machine learning and graph technology to power its search engine**



# Basic components of a Graph?

4

digital coaches

lives in london

likes …

….

2

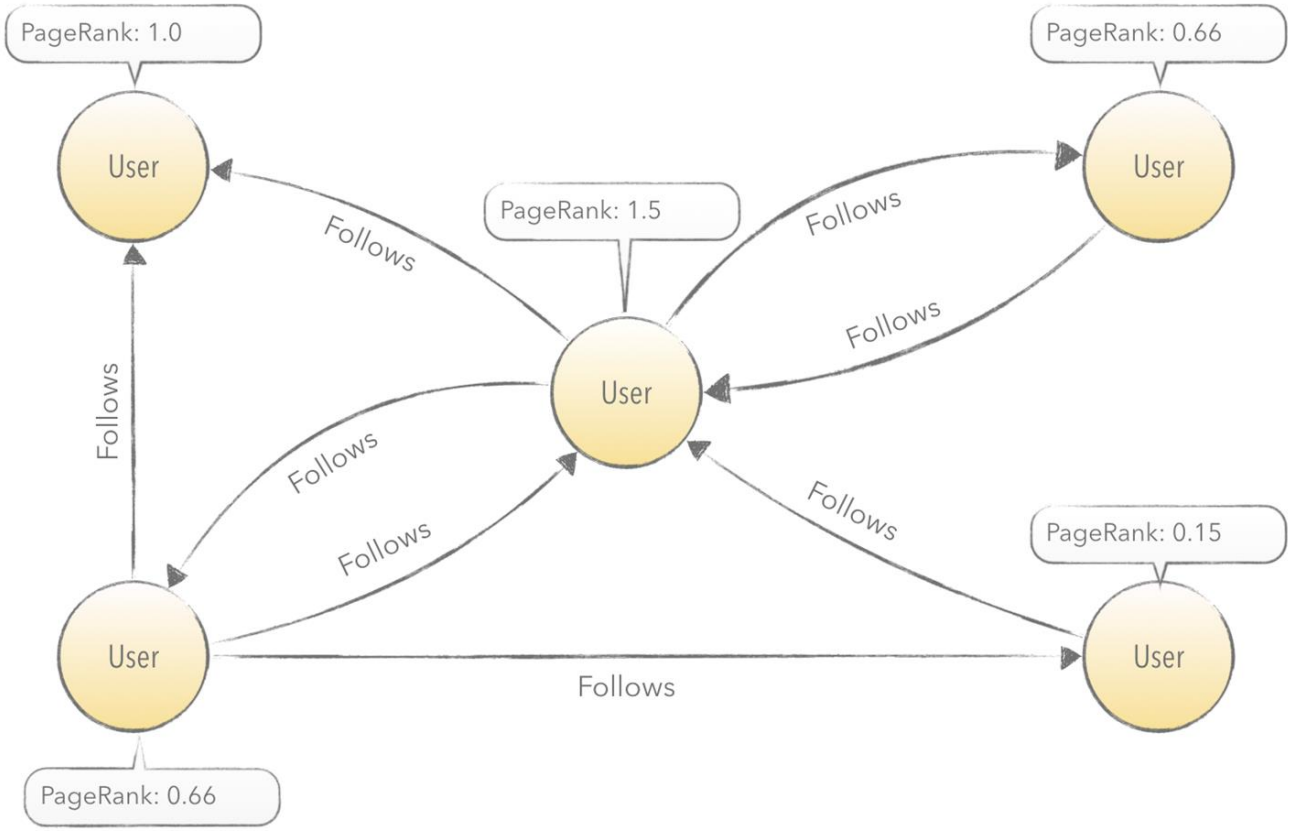
lives in london

likes ….

**Entities/ node/ vertices**

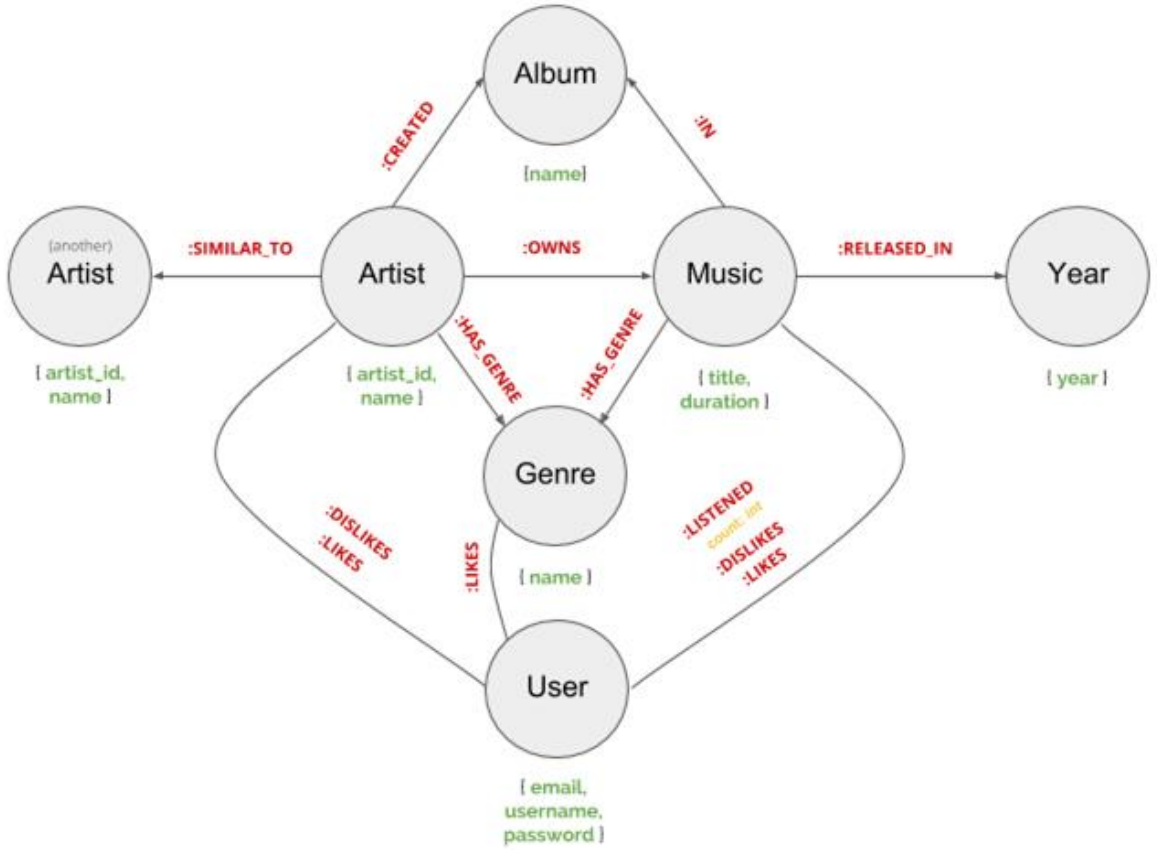
**Edges**

**Properties**




# Twitter uses personalized pagerank for recommendations

# Any data that shows relationship can be modelled as a graph



IS FRIEND OF
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cuisine:
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New York
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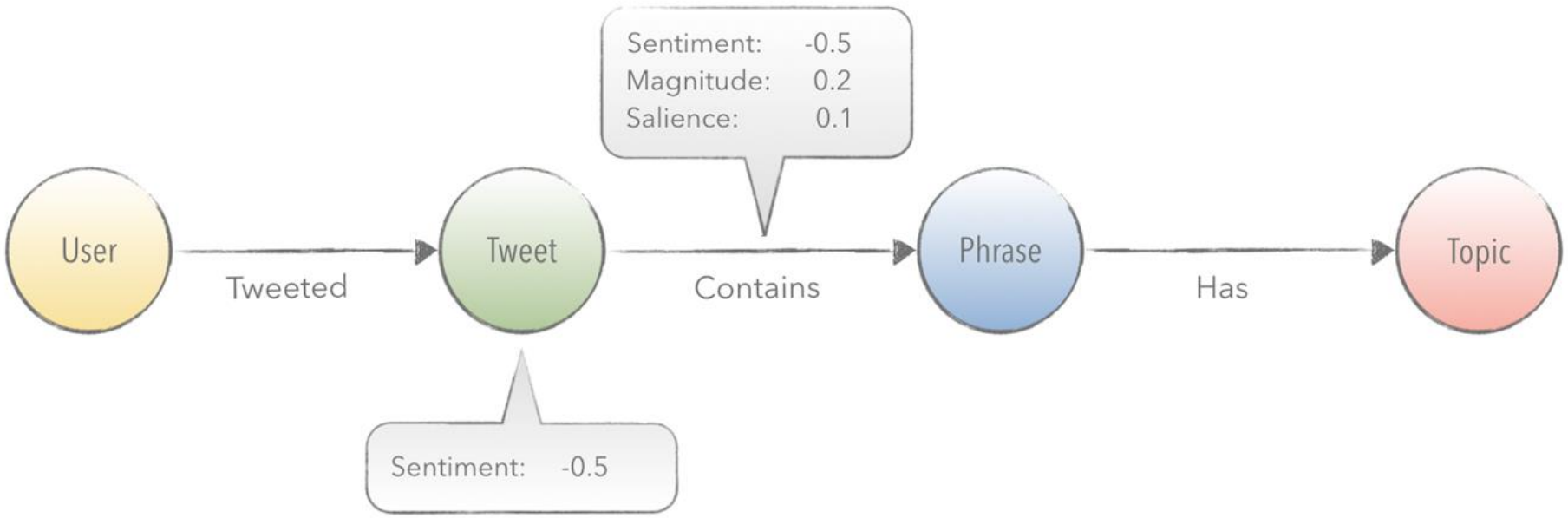
neo4j

## Using Natural Language Processing we can carry out sentiment analysis to enhance our algorithm



# Adidas case study

**Building a graph that links all diverse information from marketing campaigns, product specifications, contracted athletes, associated teams, sports categories, gender and more.**

**Had 2 million nodes and over 10 millions relationships**

**Building Realtime recommendation engine for online customers and personalized marketing campaign**

# Meredith media case study

*“We use the graph algorithms in Neo4j to transform billions of page views into millions of pseudonymous identifiers with rich browsing profiles.”*

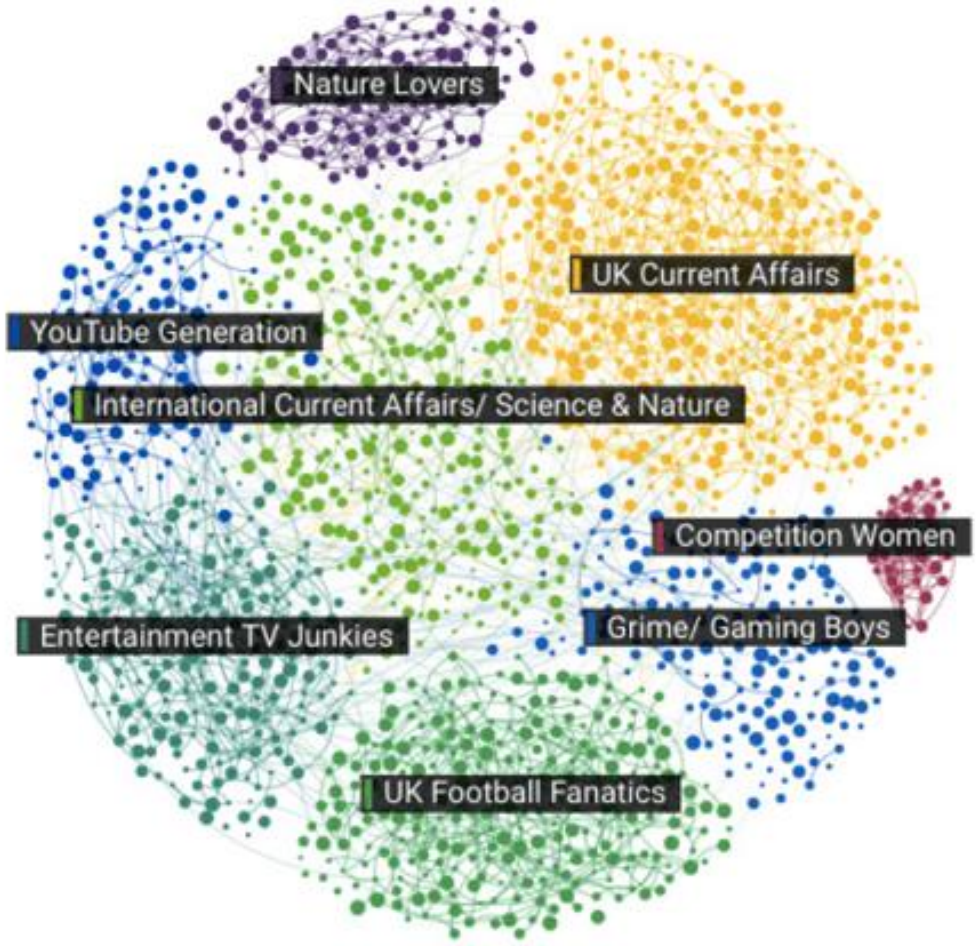
*- Ben Squire, Senior data scientist*

Instead of ‘advertising in the dark,’ they understand their customers and provide more relevant content to all users, even those who are not registered to them.

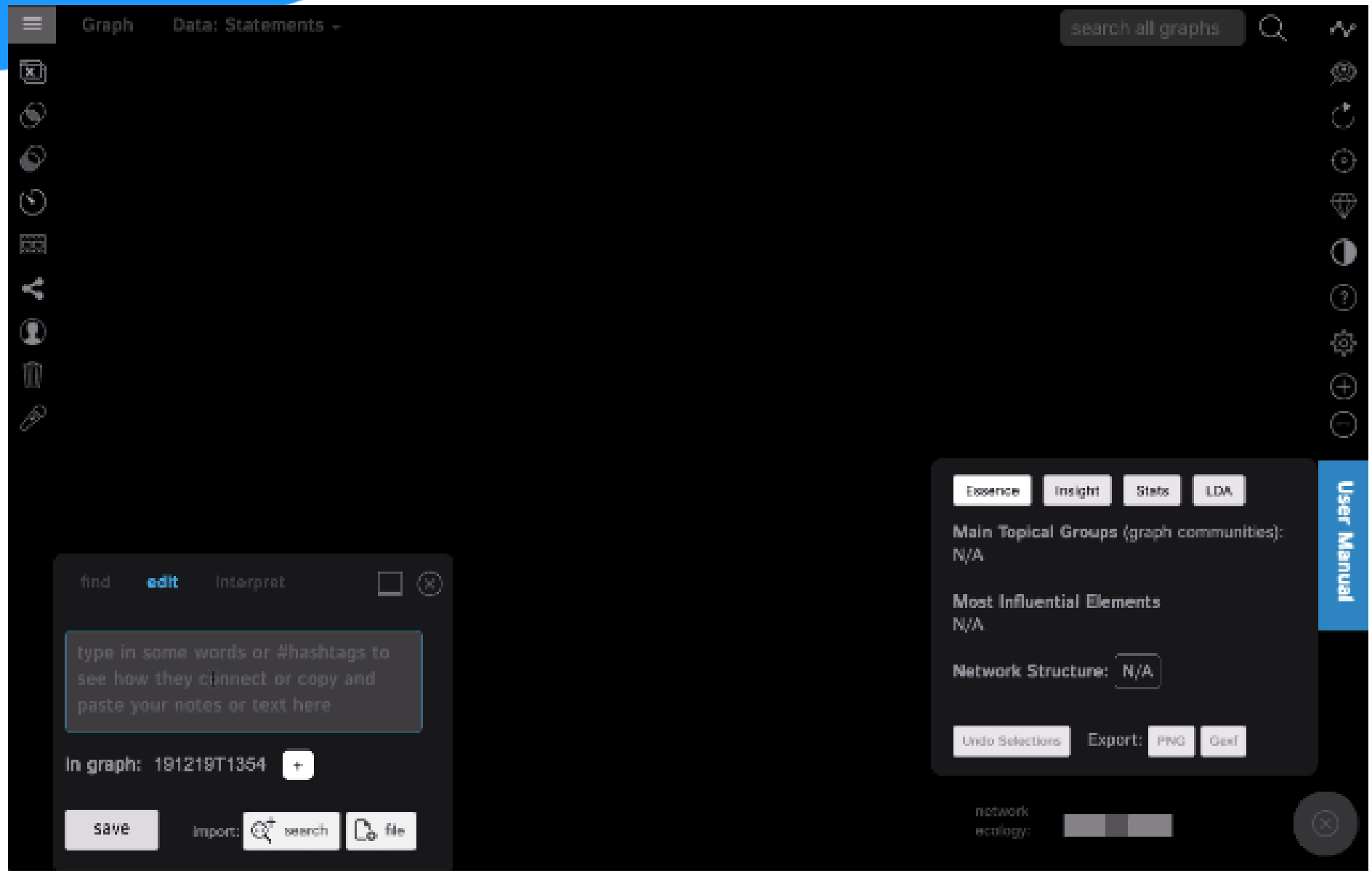
# Affinio

**Affinio platform uses their own custom graph technology to understand customers**

**BBC uses Affinio to uncover natural audience segments and develop cultural profiles by segmenting individuals based on their shared interests and affinities.**



# Infranodus


Graph
Data: Statements
search all graphs
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type in some words or #hashtags to see how they connect or copy and paste your notes or text here
In graph: 191219T1354
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import:
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Essence
Insight
Stats
LDA
Main Topical Groups (graph communities):
N/A
Most Influential Elements
N/A
Network Structure:
N/A
Undo Selections
Export:
PNG
Gexf
network ecology:
User Manual

# Can a non-programmer work with graphs and social network data?

# Best free option

**NodeXL is an add-on for Microsoft Excel, it allows us to build networks**

**They also have a set of importers which can extract social network data like facebook, twitter, youtube, etc**

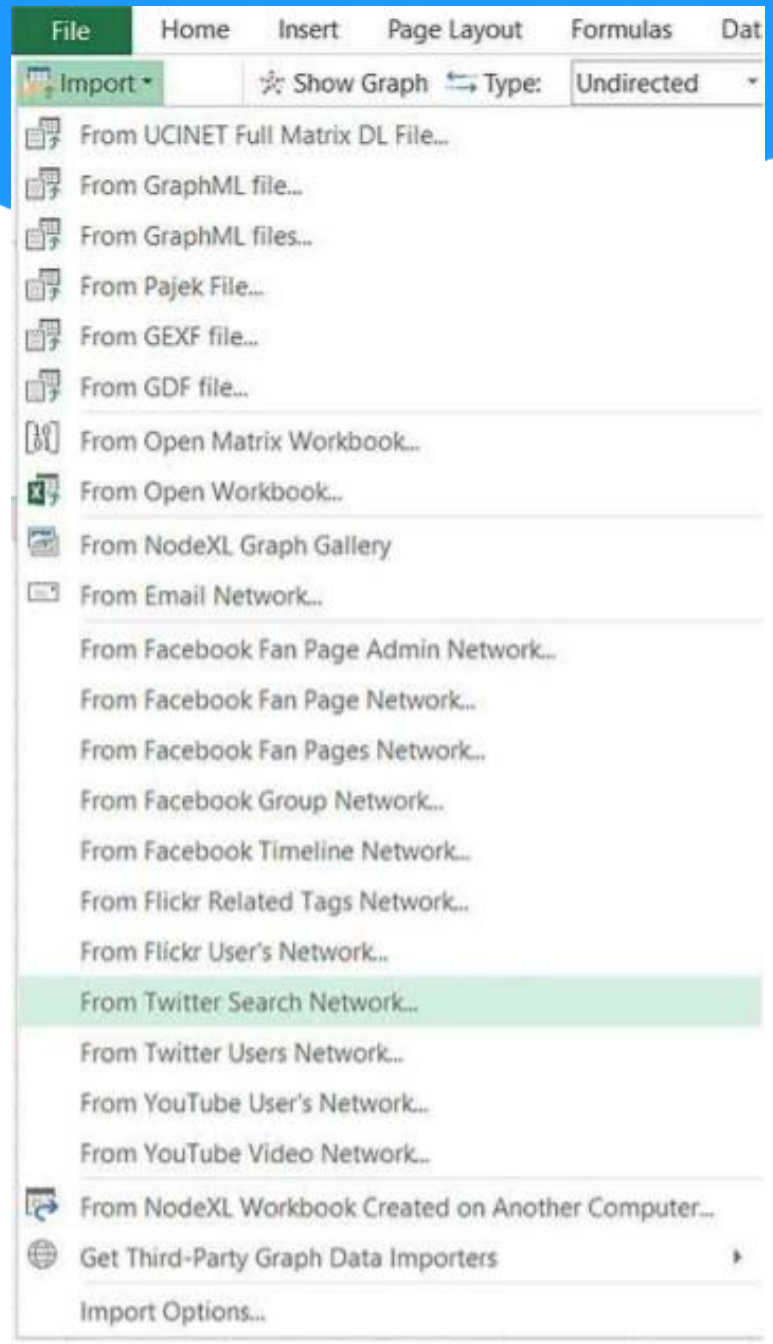
**NodeXL is designed to help people to “think link” — to have a way to reason about connected structures without learning to program!**

# Demo on using Nodexl

# Questions?

# Send us your feedback

by filling out this survey


File
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From GraphML file...
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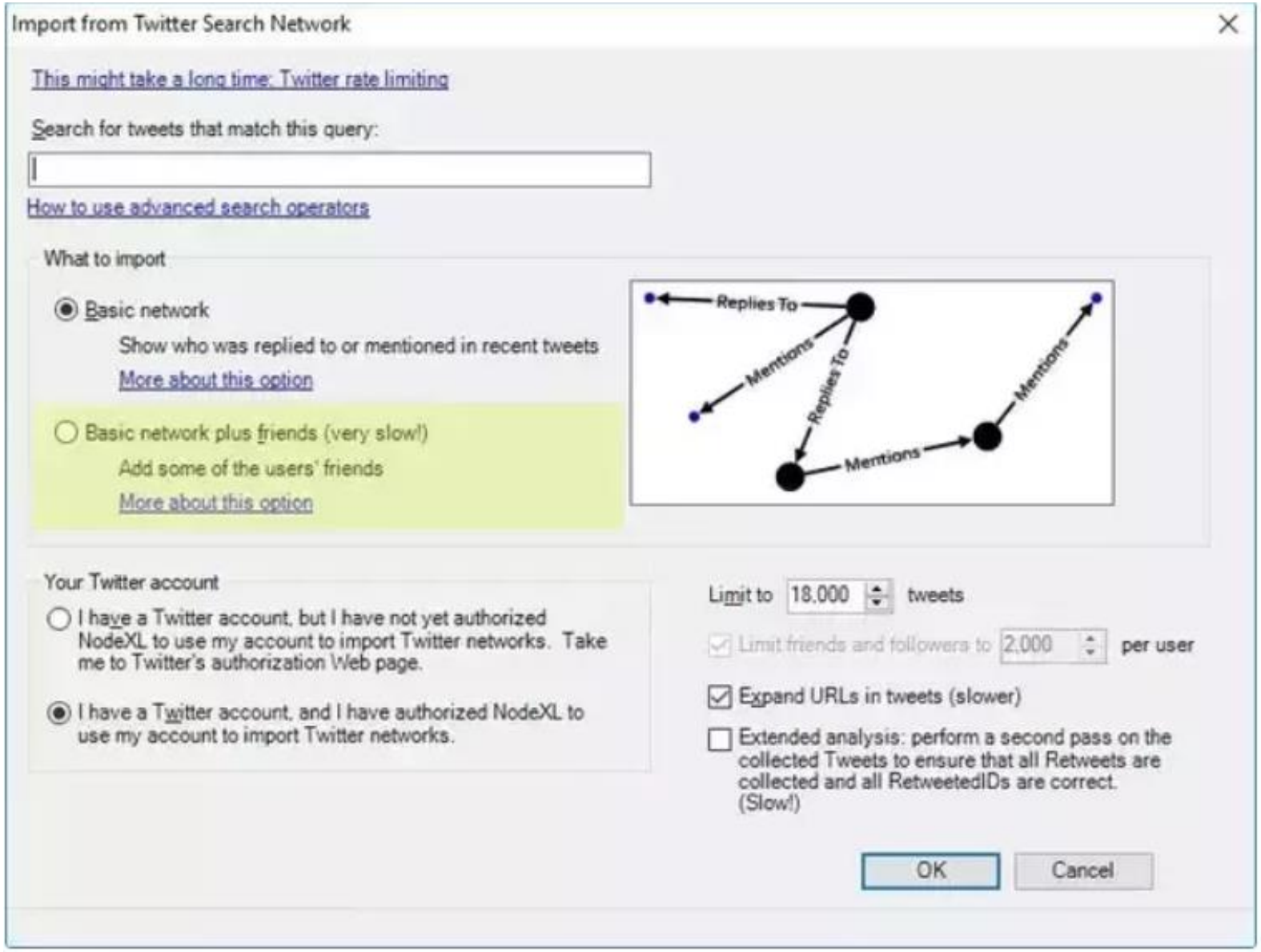
From Facebook Group Network...
From Facebook Timeline Network...
From Flickr Related Tags Network...
From Flickr User's Network...
From Twitter Search Network...
From Twitter Users Network...
From YouTube User's Network...
From YouTube Video Network...
From NodeXL Workbook Created on Another Computer...
Get Third-Party Graph Data Importers
Import Options...


Import from Twitter Search Network
This might take a long time: Twitter rate limiting
Search for tweets that match this query:
How to use advanced search operators
What to import
Basic network
Show who was replied to or mentioned in recent tweets
More about this option
Basic network plus friends (very slow!)
Add some of the users' friends
More about this option
Replies To
Mentions
Replies To
Mentions
Mentions
Your Twitter account
I have a Twitter account, but I have not yet authorized NodeXL to use my account to import Twitter networks. Take me to Twitter's authorization Web page.
I have a Twitter account, and I have authorized NodeXL to use my account to import Twitter networks.
Limit to 18,000 tweets
Limit friends and followers to 2,000 per user
Expand URLs in tweets (slower)
Extended analysis: perform a second pass on the collected Tweets to ensure that all Retweets are collected and all RetweetedIDs are correct. (Slow!)
OK
Cancel