

Social Network Analysis: Getting and Marshalling Data



Dr Diarmuid McDonnell
UK Data Service
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New Forms of Data Training Series

Upcoming webinars:

- [Social Network Analysis: Techniques and Methods of Analysis](#) (29 September 2020)

Upcoming coding demonstrations:

- [Text Mining in Python](#) (02 – 30 September 2020)

Past webinars:

- [Social Network Analysis: Fundamental Concepts](#)
- [Text-Mining: Advanced Options](#)

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Why this training series?

Many who have seen the potential offered by network analysis have found it difficult to come to grips with the highly technical and mathematical language that necessarily characterises much of the discussion in the technical literature.

(Scott, 2017: 3)

Refresher

What is Social Network Analysis?

Social Network Analysis (SNA) is a methodological and conceptual toolbox for the measurement, systematic description, and analysis of patterns in relational structures in the social world (Caiani, 2014).

A relation is a distinctive type of connection or tie between two entities (Wasserman & Faust, 1994).

Relations are the building blocks of networks, and thus SNA is concerned with and most appropriate for analyses of data capturing relations between units of analysis (Scott, 2017).

Networks in a nutshell

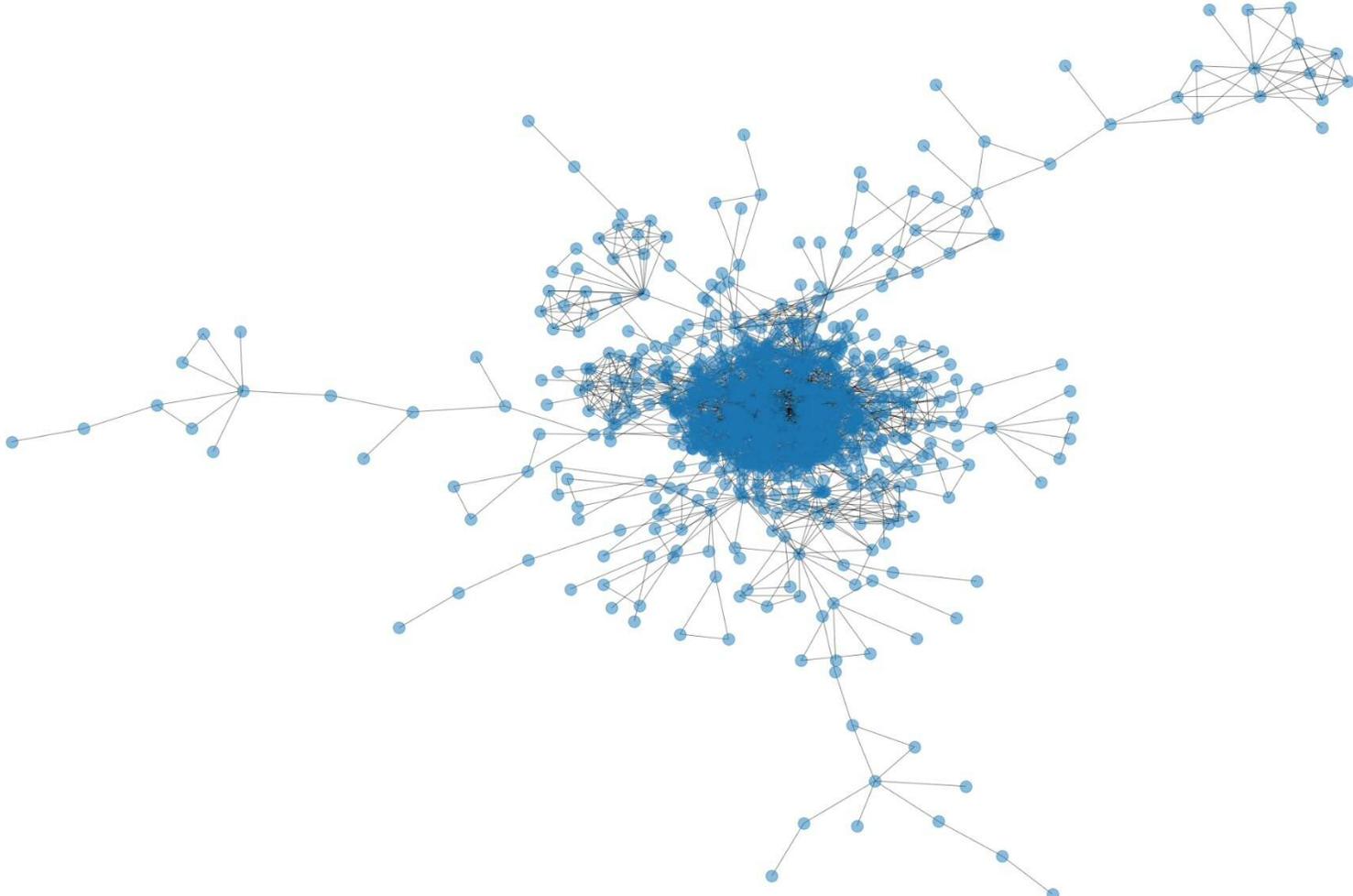
A network – whether social, physical, biological etc – is constructed from two main building blocks (Owen-Smith, 2017):

1. The **entities** that are (or can be) connected in a network.
2. The **connections** that exist (or could exist) between entities.

Therefore a network is an aggregation or collection of these entities and their connections.

For example, a family tree is a network containing individuals (**entities**) that are related through some type of familial tie (**connection**).

Example of social network



Understanding APIs

What is an API?

An Application Programming Interface (API) is:

...a set of functions and procedures allowing the creation of applications that access the features or data of an operating system, application, or other service (Oxford English Dictionary).

In essence: an API acts as an **intermediary** between software applications.

API conceptualisation



Collecting and cleaning social network data: Twitter

What is Twitter?

Twitter is one of the world's most popular microblogging and social networking platforms.

Users can post (tweet) their own content, repost (retweet) and like the content of others, follow other users etc.

Twitter allows restricted access to the data it holds on the above activities through its API.

Twitter API

The Twitter API allows programmatic access to the Twitter platform:

- Automated / scheduled activity ('bots')
- Requesting data

There are different levels of access (tiers) to the API:

- Standard
- Premium
- Enterprise

In terms of accessing data, the API provides a number of endpoints.

Twitter API

Accessing the API involves a number of steps:

1. Registration
2. Creating a project and application(s)
3. Generating and saving access and authentication keys associated with you and the project/application(s)
4. Selecting level of access (tier)
5. Requesting data!

Twitter API: Registration

Apply for access – Twitter Developer

developer.twitter.com/en/apply-for-access

Developer

Get started with Twitter APIs and tools

Apply for access

All new developers must apply for a developer account to access Twitter APIs. Once approved, you can begin to use our standard APIs and our new premium APIs.

[Apply for a developer account](#) [Restricted used cases >](#)

Twitter API: Demo

See [Jupyter Notebook](#) for code demonstration

Converting to social network data: Charity trustees

Charity data: Demo

See [Jupyter Notebook](#) for code demonstration

Questions

Dr Diarmuid McDonnell

diarmuid.mcdonnell@manchester.ac.uk

 @DiarmuidMc



Further resources and help

Repository: <https://github.com/UKDataServiceOpen/new-forms-of-data>

Youtube: <https://www.youtube.com/user/UKDATASERVICE>

Help: ukdataservice.ac.uk/help/

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