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1 Social Network Analytics - Beginner's Guide

1.1 What is this tool?

Social Network Analytics is a web application that helps you understand connections and relationships in social media data. You upload your data (like tweets, posts, or comments), and the tool creates a visual map showing who mentions whom, what topics are discussed, and how everything connects together.

Think of it like: A map that shows how ideas, people, and topics are connected in your social media data.

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1.3 Opening the Application

Someone (like your IT department or researcher) will give you a web address (URL) to open in your browser. It might look like: - `http://localhost:8501` (if running on your computer) - Or a web address like `http://your-server.com:8501`

Just click the link and the application will open in your web browser (Chrome, Firefox, Safari, etc.).

That's it! You don't need to install anything or write any code.

1.4 Step 1: Upload Your Data

1.4.1 What kind of file do I need?

You need a spreadsheet file (usually called CSV) or a special text file (NDJSON).

Most commonly: An Excel file saved as CSV (Comma Separated Values)

1.4.2 What should be in my file?

Your file needs at least two columns: 1. **Who wrote it** - usernames, names, or IDs of people 2. **What they wrote** - the actual text of posts, tweets, or comments

Example:

Username	Post Text
john_smith	"I love this product! #awesome"
mary_jane	"Thanks @john_smith for the recommendation!"
bob_jones	"Just visited Paris, amazing city!"

1.4.3 How do I upload?

1. Look for the section that says **"Upload Data"**
2. Click the **"Browse files"** or **"Choose a file"** button
3. Find your CSV file on your computer
4. Click **"Open"**

You'll know it worked when: You see a preview of your data showing the first few rows.

1.4.4 Check your preview

After uploading, you'll see: - **A table** showing the first 10 rows of your data - **File information** like size and number of rows - This helps you make sure you uploaded the right file!

1.5 Step 2: Choose What to Extract

This is the most important decision! You're telling the tool what to look for in your text.

1.5.1 Which column has the authors/users?

Find the dropdown menu labeled **"Author Column"** and select which column contains the usernames or author names.

Common names for this column: - username - author - user - name - unique_id

The app usually guesses this correctly! But check to make sure.

1.5.2 Which column has the text?

Find the dropdown menu labeled **"Text Column"** and select which column has the posts, tweets, or comments.

Common names for this column: - text - content - message - post - body

Again, the app usually guesses correctly.

1.5.3 What do you want to find in the text?

This is where you choose what the tool will extract. Look for the “**Choose Extraction Method**” menu on the left side.

1.5.3.1 Option 1: Named Entities (Default - Best for News & General Content) Choose this if: Your posts mention real people, places, or organizations

What it finds: - Names of people (like “Joe Biden”, “Taylor Swift”) - Places (like “New York”, “France”, “Tokyo”) - Organizations (like “Google”, “United Nations”, “NASA”)

Good for: - News articles - Political discussions - Travel posts - Business content

Example: - Text: “Apple announced a new iPhone in California” - Finds: Apple (organization), California (place)

1.5.3.2 Option 2: Hashtags (Best for Twitter/Instagram) Choose this if: Your data has hashtags and you want to see which topics are popular

What it finds: - Anything with a # symbol (like #politics, #love, #travel)

Good for: - Twitter/X posts - Instagram posts - TikTok captions

Example: - Text: “Beautiful sunset! #nature #photography #beach” - Finds: nature, photography, beach

1.5.3.3 Option 3: Mentions (Best for Twitter/X Conversations) Choose this if: You want to see who mentions whom

What it finds: - Usernames mentioned with @ symbol (like @username)

Good for: - Twitter/X conversations - Instagram comments - Finding influential users

Example: - Text: “Great work @jane_doe and @bob_smith!” - Finds: jane_doe, bob_smith

1.5.3.4 Option 4: Websites (Best for Link Sharing) Choose this if: You want to see which websites are being shared

What it finds: - Website addresses (like nytimes.com, youtube.com)

Good for: - News sharing - Link analysis - Source tracking

Example: - Text: “Check this out: <https://www.bbc.com/news/article>” - Finds: bbc.com

1.5.3.5 Option 5: Keywords (Best for Finding Topics) Choose this if: You want to find the main topics and themes

What it finds: - Important words and phrases (automatically detected) - Filters out common words like “the”, “and”, “is”

Good for: - Topic discovery - Content analysis - Understanding what people talk about

Example: - Text: “Climate change is causing severe weather patterns” - Finds: climate change, severe weather patterns

1.5.3.6 Option 6: Exact Text (Advanced) Choose this if: Your text column already has the exact categories you want

Most people don’t use this option - it’s for special cases.

1.6 Step 3: Basic Settings

You can usually **skip this section** and use the default settings! But here's what they mean if you want to adjust:

1.6.1 For Named Entities (if you chose that):

Which types of things to find: - Check the boxes for what you want: - Persons (people's names) - Locations (places) - Organizations (companies, groups)

Confidence: - This slider controls how "sure" the tool needs to be - **Higher** = More accurate, but finds fewer things - **Lower** = Finds more things, but may make mistakes - **Default (85%) is usually good**

1.6.2 For Keywords (if you chose that):

How many keywords to find: - Minimum: At least this many keywords per person - Maximum: No more than this many keywords per person - **Default (5-20) is usually good**

Language: - Choose the language of your text - English is default - Also supports Danish, Spanish, French, and others

1.6.3 Other Settings (Usually Don't Need to Change):

Chunk Size: - How many rows to process at once - **Don't change this unless the app is slow or crashes**

1.7 Step 4: Run the Analysis

1.7.1 Ready to go!

Once you've: 1. Uploaded your file 2. Selected author and text columns 3. Chosen what to extract 4. Adjusted settings (or kept defaults)

1.7.2 Click the big button!

Look for the blue button that says "**Start Processing**" or "**Start Processing**"

Click it!

1.7.3 What happens next?

You'll see: - A progress bar showing how much is done - Messages like "Processing chunk 1 of 5..." - Estimated time remaining

How long does it take? - Small files (1,000 rows): 10-30 seconds - Medium files (10,000 rows): 1-5 minutes - Large files (100,000 rows): 10-30 minutes

What to do while waiting: - Nothing! Just wait for it to finish - Don't close the browser window - Don't click "Start Processing" again

1.7.4 When it's done

You'll see a success message with numbers like: - "Processing Complete!" - "Posts processed: 5,000" - "Entities extracted: 1,234"

Now scroll down to see your results!

1.8 Step 5: See Your Results

1.8.1 The Numbers

At the top, you'll see some statistics:

Total Nodes: - This is everyone and everything in your network - Authors (people who posted) + Things they mentioned

Total Edges: - This is the connections between them - "John mentions Paris" = 1 edge

Authors: - How many unique people posted

Entities: - How many unique things were found (people, places, hashtags, etc.)

Don't worry too much about these numbers - the visualization is more interesting!

1.8.2 Top Mentioned Items

Below the numbers, you'll see a table showing: - What was mentioned most often - How many times it appeared - What type it is (person, place, hashtag, etc.)

Example:

Entity	Mentions	Type
New York	45	Location
climate change	32	Keyword
Biden	28	Person

This tells you what your data is mostly about!

1.8.3 The Network Visualization

This is the fun part! You'll see a **web of connected dots**.

What am I looking at?

- **Dots (Nodes)** = People or things
- **Lines (Edges)** = Connections
- **Colors:**
 - Blue dots = Authors (people who posted)
 - Orange dots = People mentioned
 - Green dots = Places
 - Red dots = Organizations
 - Other colors = Other types

Size matters: - **Big dots** = Very connected, mentioned a lot - **Small dots** = Less connected, mentioned rarely

How to explore:

1. **Hover your mouse over a dot** = See details about it
2. **Scroll your mouse wheel** = Zoom in and out
3. **Click and drag** = Move around the map
4. **Use the play button** = Watch the network rearrange itself

What to look for:

- **Clusters** = Groups of dots close together (related topics/communities)
- **Central dots** = Big dots in the middle (important people/topics)
- **Connections** = Who's connected to whom

1.8.4 Understanding Your Network

Dense cluster in the middle: - This is the main conversation - Most connected people and topics

Isolated dots on the edges: - Less connected - Might be off-topic or one-time mentions

Multiple clusters: - Different sub-topics or communities - Each cluster is a different conversation

1.8.5 Filter to Main Network

See the checkbox “**Giant Component Only**”?

Check this box to show only the biggest, most connected part of your network. This helps you focus on the main conversation.

1.9 Step 6: Download Your Network

Ready to save your results? Scroll down to “**Download Results**”.

1.9.1 Which file should I download?

For most people:

Download GEXF (the first big download button) - This is the main file you want - Used with a program called **Gephi** (free network visualization software) - Best for creating professional-looking network diagrams

To use it: 1. Download the GEXF file 2. Go to <https://gephi.org> and download Gephi (free) 3. Open Gephi 4. File → Open → Select your GEXF file 5. Create beautiful network visualizations!

Other files you might want:

Edge List CSV: - Opens in Excel - Simple table showing: who → mentioned → what - Good for basic analysis

Statistics JSON: - Contains all the numbers - For advanced users who want to analyze further

1.9.2 Saving for later

Once you download the files, **save them somewhere safe!**

You can: - Reopen them in Gephi anytime - Share them with colleagues - Include them in reports

Tip: Create a folder for your project and save all files there.

1.10 Common Questions

1.10.1 Q: I uploaded my file but nothing happens

Check: - Is your file a CSV or NDJSON file? - Does it have at least two columns (author and text)? - Are the columns selected correctly?

Try: - Refresh the page and upload again - Make sure the file isn't corrupted

1.10.2 Q: The processing is taking forever

This is normal if: - Your file is very large (10,000+ rows) - You chose Named Entities (this is the slowest method)

To speed it up: - Try a smaller sample of your data first - Choose a simpler method (like Hashtags or Mentions)

1.10.3 Q: I got an error message

Common fixes: - Refresh the page and try again - Check that your columns are selected correctly - Make sure your text column actually has text in it - Try a different extraction method

1.10.4 Q: The network looks like a mess

This is normal! Real social networks are messy.

Try: - Check the “Giant Component Only” box - Download to Gephi for better layout options - Zoom in on specific clusters - Filter to show only top items

1.10.5 Q: I don’t see any results

Possible reasons: - Your text column is empty - The extraction method didn’t find anything - Confidence is set too high (for Named Entities)

Solutions: - Check your data preview - is there text? - Try a different extraction method - Lower the confidence slider (Named Entities)

1.10.6 Q: Can I process the same data again?

Yes! You can: - Try different extraction methods - Adjust settings - Process as many times as you want

The app is smart and remembers previous results, making it faster the second time.

1.10.7 Q: Is my data safe?

Yes! - Your data stays on the computer/server running the app - Nothing is sent to the internet - Only you can see your results

1.10.8 Q: Do I need to install anything?

No! - It works in your web browser - No downloads needed - No software to install

1.10.9 Q: Can I save my work?

Yes! - Download the files (Step 6) - Save them on your computer - You can reopen them anytime

1.10.10 Q: What if I close the browser?

Your results will disappear. - Make sure to download files before closing - You can always upload and process again

1.10.11 Q: Can I edit the visualization?

In the app: Limited editing (zoom, filter)

For full editing: - Download GEXF file - Open in Gephi - Full control over colors, layout, labels, etc.

1.11 Troubleshooting

1.11.1 Problem: “Error uploading file”

Solution: - Make sure it’s a CSV file - Try opening it in Excel first to check it’s valid - Check the file isn’t too large (over 100MB might have issues)

1.11.2 Problem: “No entities found”

Solution: - Check your text column has actual text - Try a different extraction method - For Named Entities: lower the confidence slider

1.11.3 Problem: “App is very slow”

Solution: - Close other browser tabs - Try a smaller file first (sample your data) - Use a simpler extraction method (Hashtags instead of Named Entities)

1.11.4 Problem: “Visualization won’t show”

Solution: - Refresh the page - Try checking “Giant Component Only” - The network might be too large - it shows top 500 nodes for large networks

1.11.5 Problem: “Download button not working”

Solution: - Check your browser allows downloads - Try a different browser - Right-click the button and “Save Link As”

1.11.6 Problem: “Results don’t make sense”

Solution: - Check you selected the correct columns - Verify the extraction method matches your data type - Look at the data preview - is it what you expected?

1.11.7 Problem: “Can’t find the results”

Solution: - Scroll down - results appear below the “Start Processing” button - Make sure processing finished (look for “ Processing Complete”) - Check for error messages in red

1.12 Need More Help?

If you’re stuck: 1. Try refreshing the page and starting over 2. Test with a very small file first (just 100 rows) 3. Try the simplest extraction method (Hashtags or Mentions) 4. Ask whoever set up the app for help

Things to tell them: - What extraction method you chose - Any error messages you see - How many rows your file has - What happened when you clicked “Start Processing”

1.13 Quick Start Checklist

Follow this simple checklist for success:

- ☐ Open the web app in your browser
- ☐ Upload your CSV file
- ☐ Check the data preview looks correct
- ☐ Select the author column (who wrote it)
- ☐ Select the text column (what they wrote)
- ☐ Choose extraction method:
 - News/general content? → Named Entities
 - Twitter data? → Hashtags or Mentions
 - Want topics? → Keywords
- ☐ Leave other settings as default (unless you know what they do)
- ☐ Click “Start Processing”
- ☐ Wait for it to finish (don’t close browser!)

- ☐ Scroll down to see results
 - ☐ Explore the visualization (hover, zoom, drag)
 - ☐ Download GEXF file to save your work
 - ☐ Done!
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1.14 Remember

Don't be afraid to experiment! - You can't break anything - Try different extraction methods - Play with the settings - Process the same data multiple times

Start simple: - Small file first - Basic extraction method - Default settings - Build up from there

Have fun exploring your network!

The tool is designed to help you discover patterns and connections you might not see otherwise. Enjoy the journey of exploring your data!

Questions? Ask the person who set up the app for you.

Happy exploring!