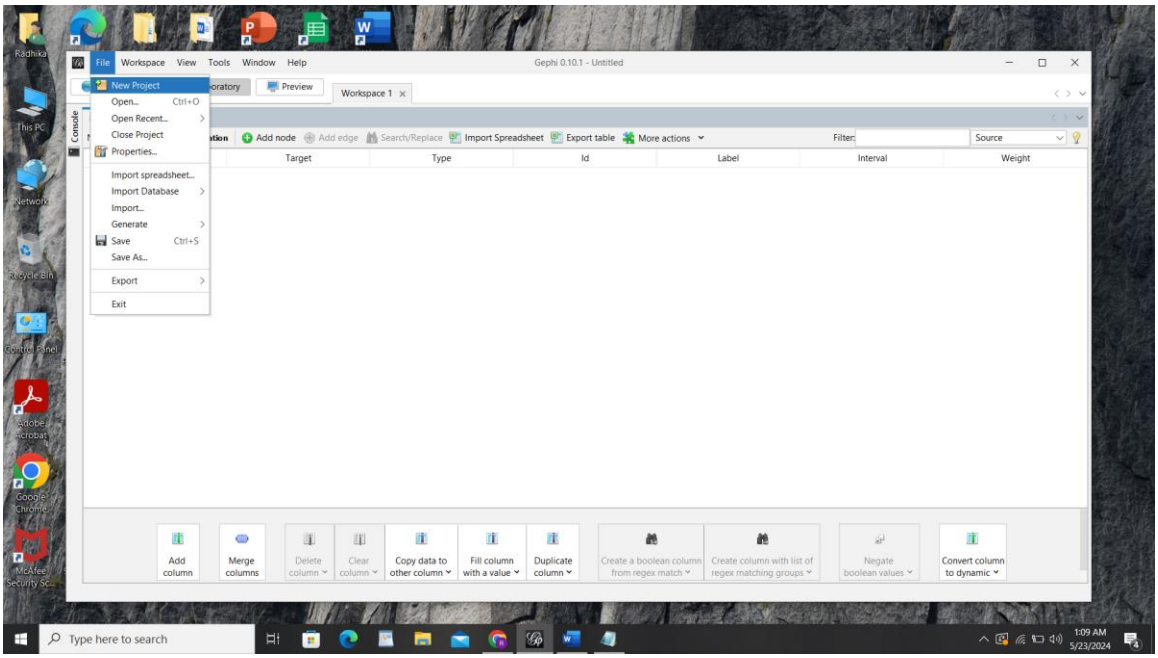
Now performing Analysis using Gephi Tool:

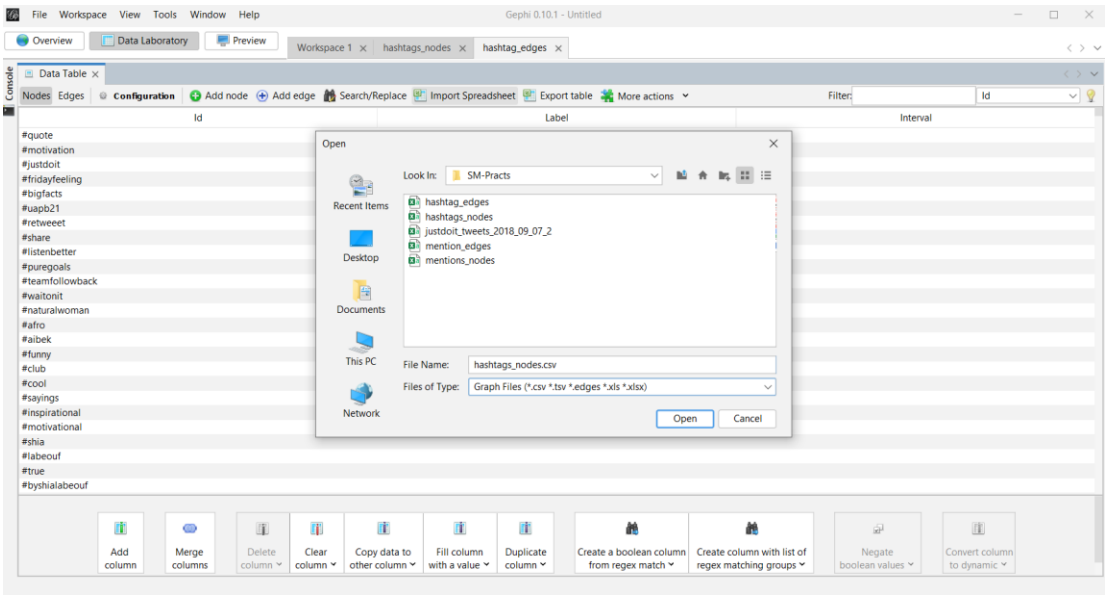
In Gephi, when importing the "hashtags_edges.csv" file, you should select it as an "Edges Table."

Here's a step-by-step guide on how to do it:

- Open Gephi and create a new project.
- In the "Data Laboratory" tab, click on the "Import Spreadsheet" button.
- Select the "hashtags_edges.csv" file.
- In the import options:
- Choose "Edges Table" as the data type.
- Ensure that the separator is set to comma (,).
- Check the box for "First Row as Column Titles."
- Ensure that the appropriate columns are mapped to Source and Target columns, representing the connections between hashtags.
- Click "Next" and then "Finish" to import the CSV file as an edge list into Gephi.
- Follow same steps for importing for hashtag_nodes.csv
- Choose Nodes table as the type.
- Ensure the columns are correctly mapped that is source and target.
- Click Next and then Finish.
- After importing both the nodes and edges tables, your graph should be visible in Gephi. If the graph is still not visible, try applying a layout from the Layout tab, such as ForceAtlas2, to visualize the network.
- Gephi will create a network visualization based on the imported data. You can customize the visualization settings and layout as needed.

Here are the screenshots to perform the above steps:




File Workspace View Tools Window Help
Gephi 0.10.1 - Untitled
Overview
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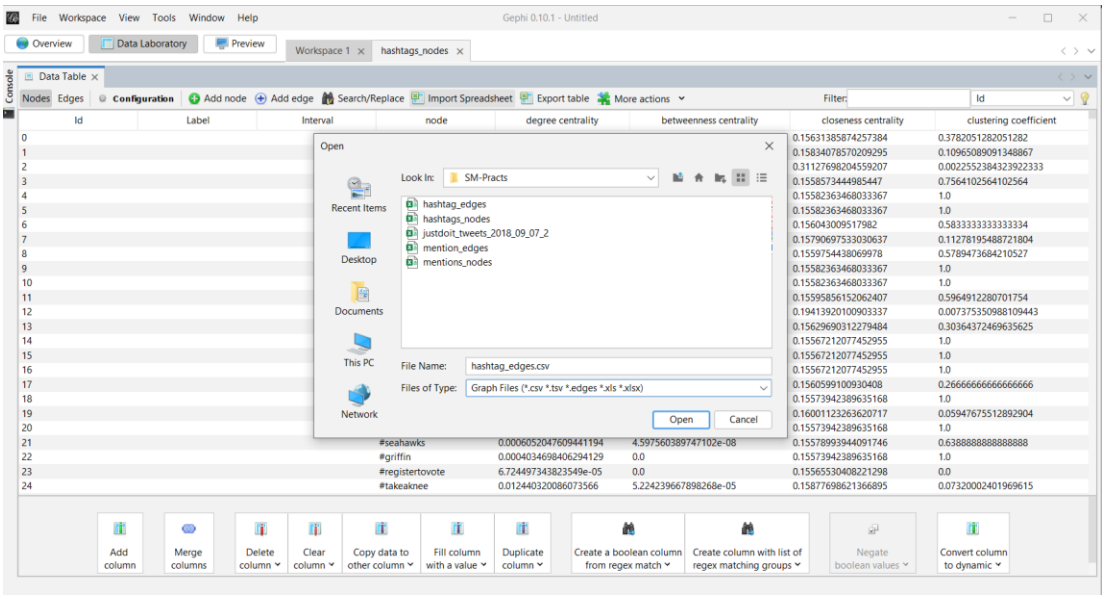
Workspace 1
hashtags_nodes
hashtag_edges
Data Table
Nodes Edges
Configuration
Add node
Add edge
Search/Replace
Import Spreadsheet
Export table
More actions
Filter:
Id
Id
Label
Interval
#quote
#motivation
#justdoit
#fridayfeeling
#bigfacts
#uapb21
#retweeet
#share
#listenbetter
#puregoals
#teamfollowback
#waitonit
#naturalwoman
#afro
#aibek
#funny
#club
#cool
#sayings
#inspirational
#motivational
#shia
#labeouf
#true
#byshialabeouf
Open
Look In:
SM-Practs
Recent Items
Desktop
Documents
This PC
Network
hashtag_edges
hashtags_nodes
justdoit_tweets_2018_09_07_2
mention_edges
mentions_nodes
File Name:
hashtags_nodes.csv
Files of Type:
Graph Files (*.csv *.tsv *.edges *.xls *.xlsx)
Open
Cancel
Add column
Merge columns
Delete column
Clear column
Copy data to other column
Fill column with a value
Duplicate column
Create a boolean column from regex match
Create column with list of regex matching groups
Negate boolean values
Convert column to dynamic


File Workspace View Tools Window Help
Gephi 0.10.1 - Untitled
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hashtags_nodes
Data Table
Nodes Edges
Configuration
Add node
Add edge
Search/Replace
Import Spreadsheet
Export table
More actions
Filter:
Id
Id
Label
Interval
node
degree centrality
betweenness centrality
closeness centrality
clustering coefficient
0 0.15631385874257384 0.3782051282051282
1 0.15834078570209295 0.10965089091348867
2 0.31127698204559207 0.0022552384323922333
3 0.1558573444985447 0.7564102564102564
4 0.15582363468033367 1.0
5 0.15582363468033367 1.0
6 0.156043009517982 0.5833333333333334
7 0.15790697533030637 0.11278195488721804
8 0.1559754438069978 0.5789473684210527
9 0.15582363468033367 1.0
10 0.15582363468033367 1.0
11 0.15595856152062407 0.5964912280701754
12 0.19413920100903337 0.007375350988109443
13 0.15629690312279484 0.30364372469635625
14 0.15567212077452955 1.0
15 0.15567212077452955 1.0
16 0.15567212077452955 1.0
17 0.1560599100930408 0.26666666666666666
18 0.15573942389635168 1.0
19 0.16001123263620717 0.05947675512892904
20 0.15573942389635168 1.0
21 #seahawks 0.0006052047609441194 4.597560389747102e-08 0.15578993944091746 0.6388888888888888
22 #griffin 0.0004034698406294129 0.0 0.15573942389635168 1.0
23 #registertovote 6.724497343823549e-05 0.0 0.15565530408221298 0.0
24 #takeaknee 0.012440320086073566 5.224239667898268e-05 0.15877698621366895 0.07320002401969615
Open
Look In:
SM-Practs
Recent Items
Desktop
Documents
This PC
Network
hashtag_edges
hashtags_nodes
justdoit_tweets_2018_09_07_2
mention_edges
mentions_nodes
File Name:
hashtag_edges.csv
Files of Type:
Graph Files (*.csv *.tsv *.edges *.xls *.xlsx)
Open
Cancel
Add column
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Delete column
Clear column
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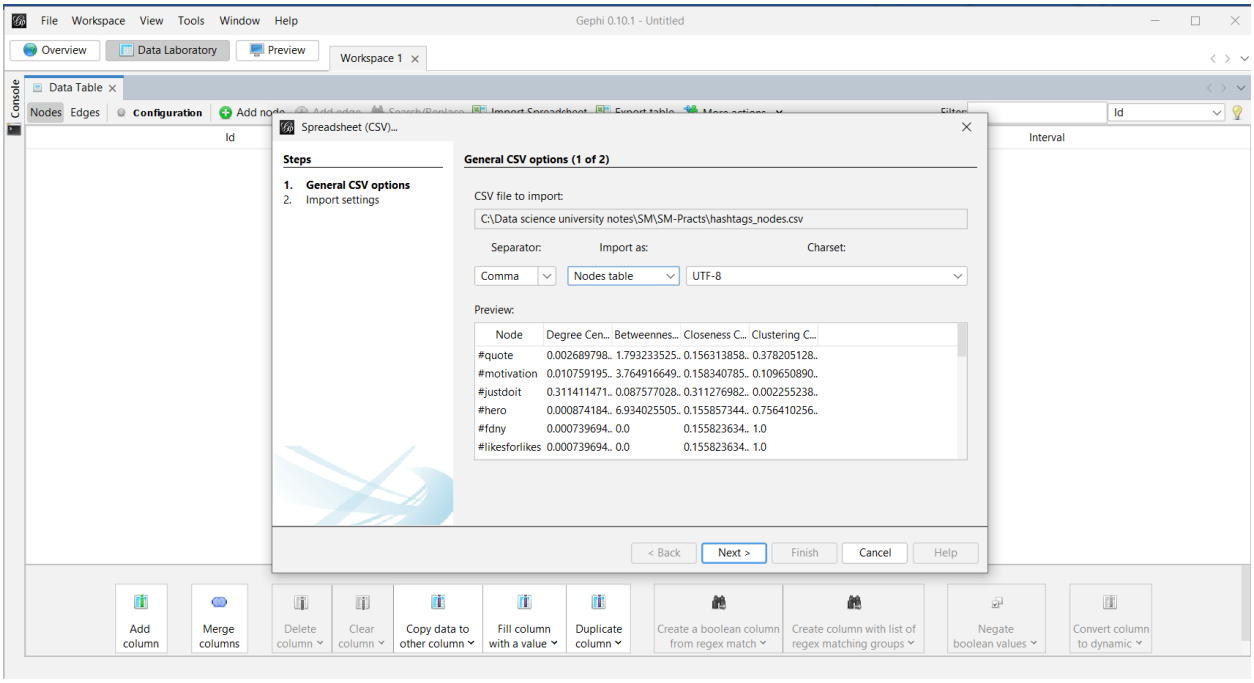
File Workspace View Tools Window Help
Gephi 0.10.1 - Untitled
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Interval
Spreadsheet (CSV)...
Steps
1. General CSV options
2. Import settings
General CSV options (1 of 2)
CSV file to import:
C:\Data science university notes\SM\SM-Practs\hashtags_nodes.csv
Separator:
Import as:
Charset:
Comma
Nodes table
UTF-8
Preview:
Node Degree Cen... Betweennes... Closeness C... Clustering C...
#quote 0.002689798.. 1.793233525.. 0.156313858.. 0.378205128..
#motivation 0.010759195.. 3.764916649.. 0.158340785.. 0.109650890..
#justdoit 0.311411471.. 0.087577028.. 0.311276982.. 0.002255238..
#hero 0.000874184.. 6.934025505.. 0.155857344.. 0.756410256..
#fdny 0.000739694.. 0.0 0.155823634.. 1.0
#likesforlikes 0.000739694.. 0.0 0.155823634.. 1.0
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Next >
Finish
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Add column
Merge columns
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Copy data to other column
Fill column with a value
Duplicate column
Create a boolean column from regex match
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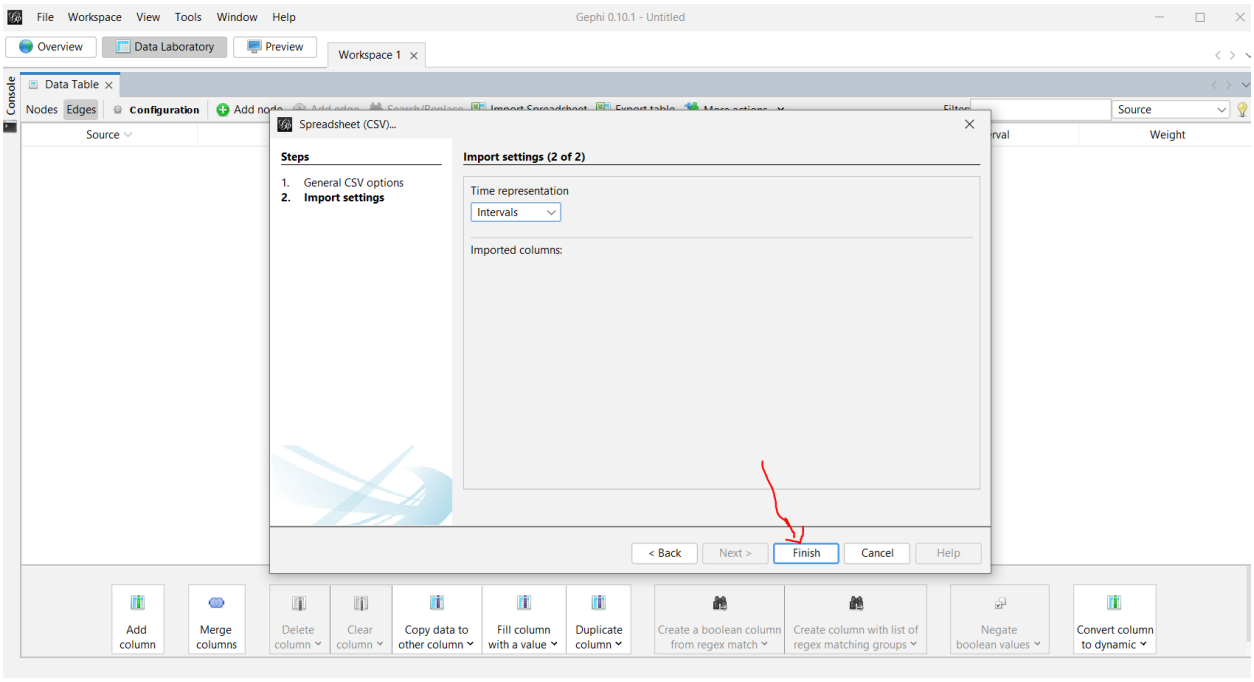
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Source
Weight
Spreadsheet (CSV)...
Steps
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2. Import settings
Import settings (2 of 2)
Time representation
Intervals
Imported columns:
< Back
Next >
Finish
Cancel
Help
Add column
Merge columns
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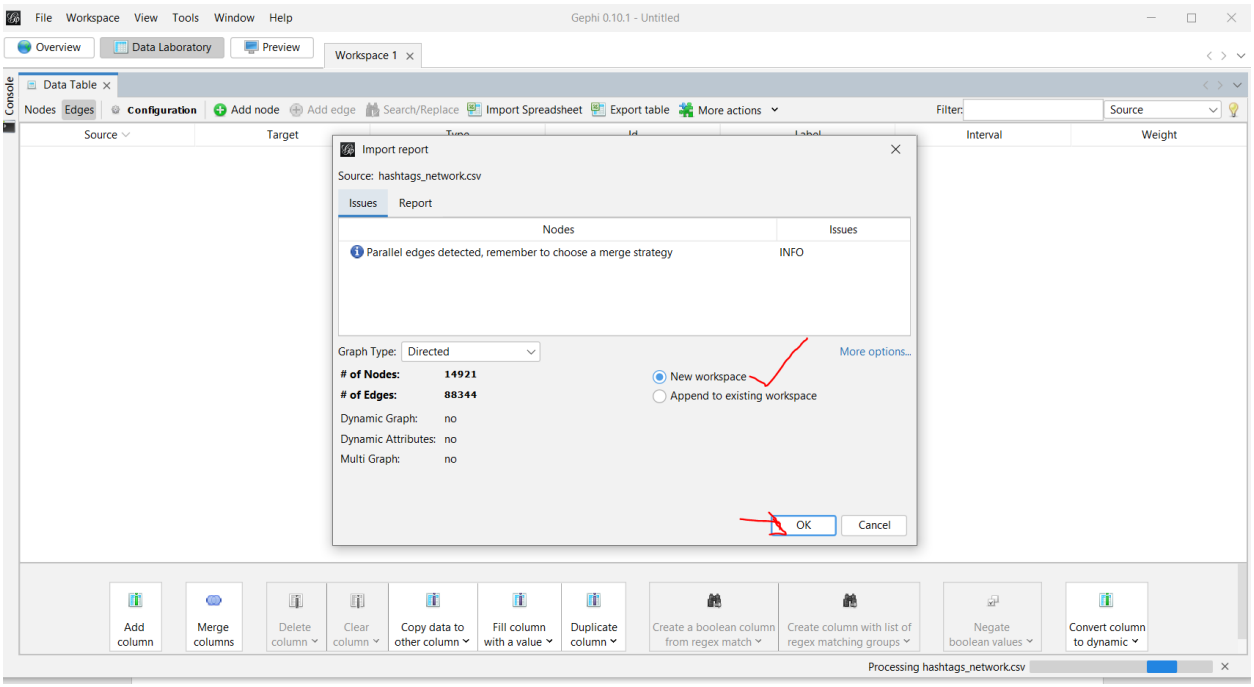
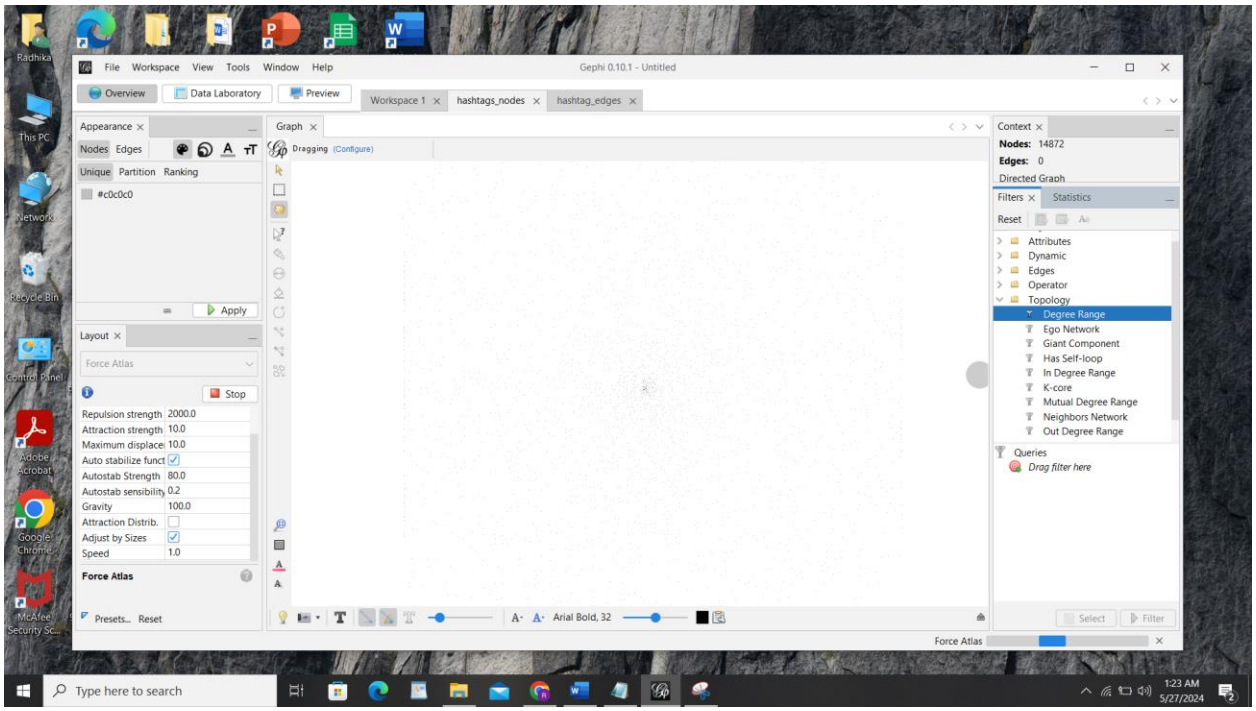
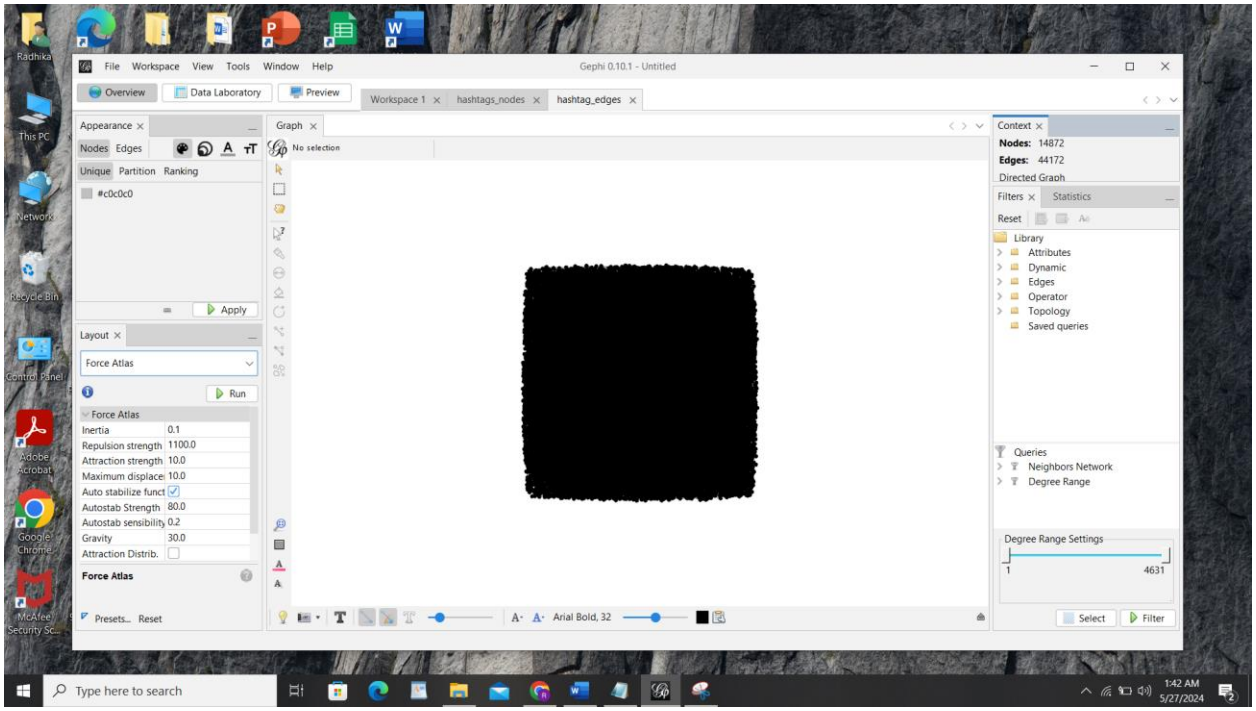
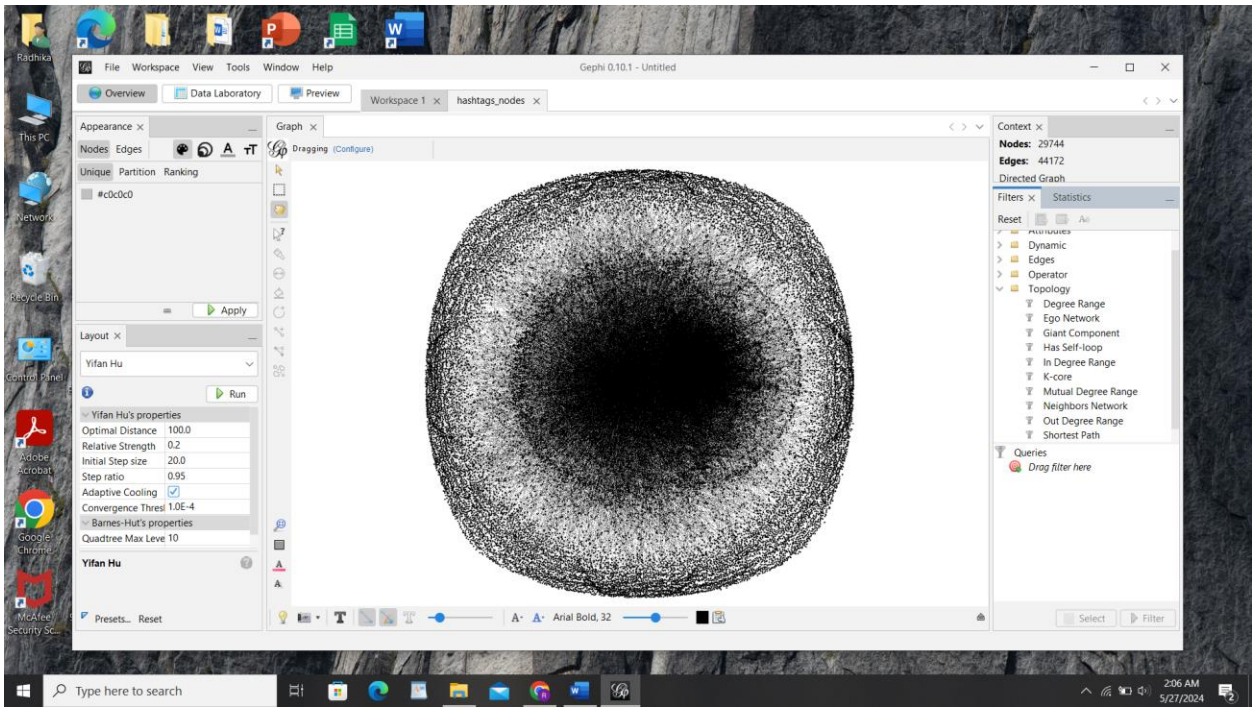


- Switch to the Overview tab to see the graph.
- Go to the Layout panel on the right side of the screen. If it’s not visible, enable it by going to Window > Layout.
- Choose a layout algorithm (e.g., "Force Atlas") and click Run to organize the graph visually.
- Adjust the settings as needed to improve visibility.
- Apply Degree Range Filter: Go to the "Filters" tab.
- Select "Topology > Degree Range" and drag it to the filter area.
- Adjust the degree range to focus on nodes with a higher degree.
- Click "Filter".
- Adjust Node and Edge Appearance:
- Go to the "Appearance" panel.
- Select "Nodes" and choose "Size" to adjust node size based on degree.
- Select "Edges" and choose "Thickness" to adjust edge thickness based on weight.
- Apply color schemes as needed.
- Finalize in Preview Tab: Switch to the "Preview" tab.
- Adjust settings for nodes, edges, and labels.
- Click "Refresh" to see the final visualization.
- For final adjustments and a polished look, switch to the "Preview" tab.
- In the Preview settings, you can fine-tune the appearance of nodes, edges, labels, etc.
- Click "Refresh" to see the changes in the preview window.

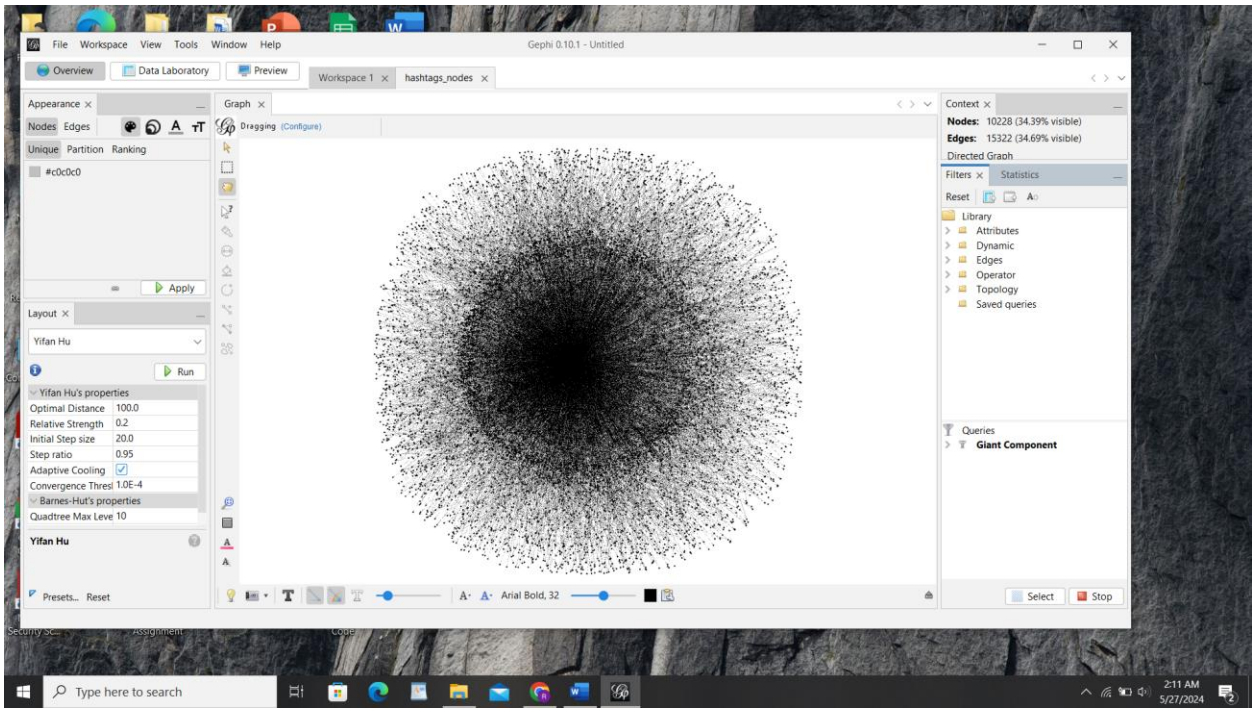




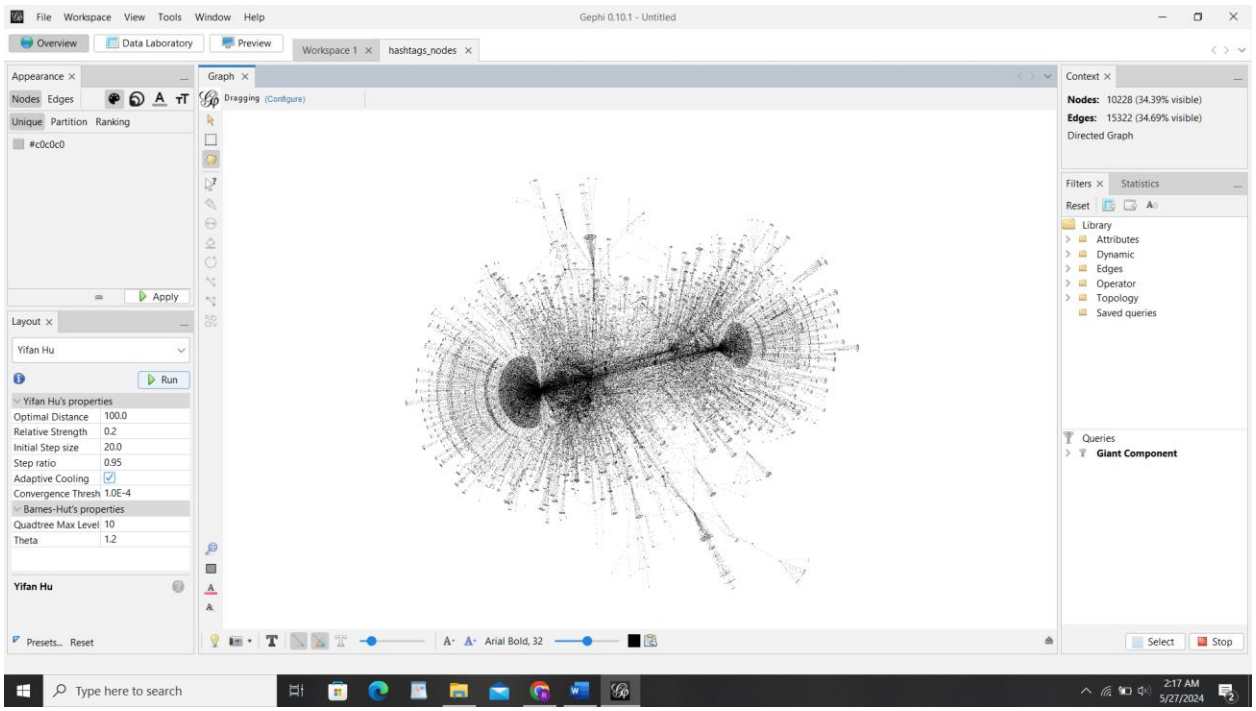
Select Layout “Yifan Hu”>> Click on Run and stop as you want.



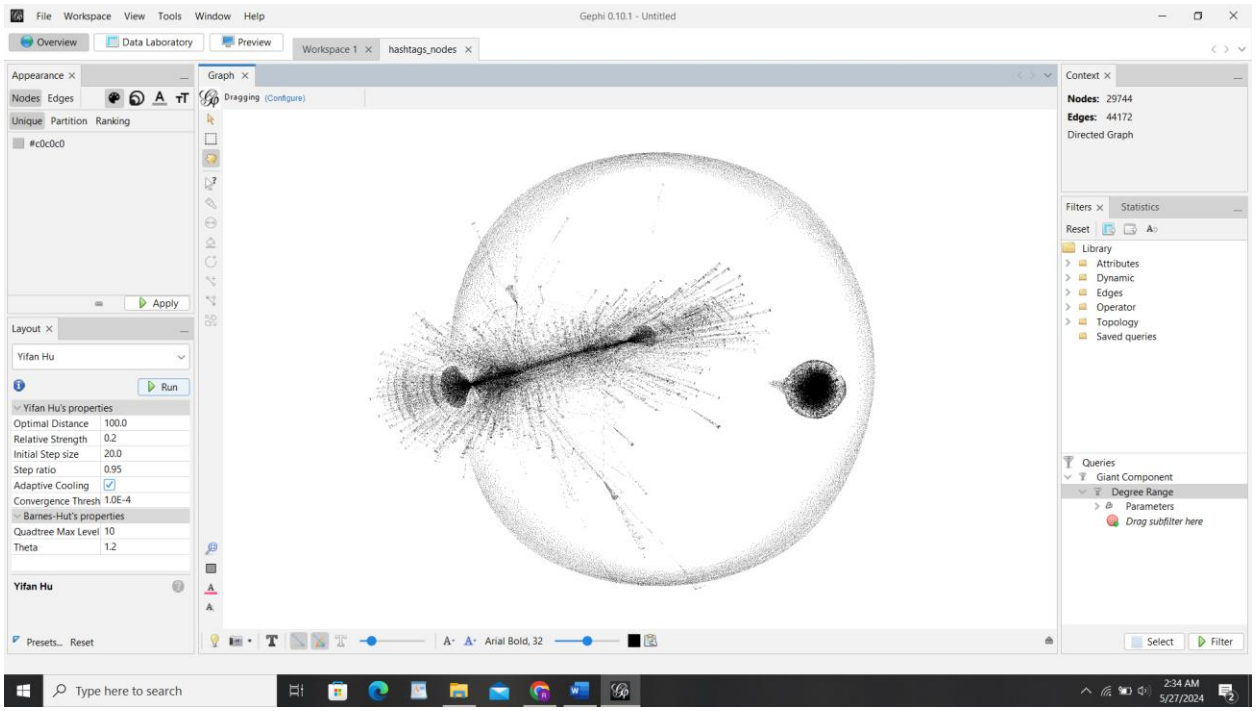
Go to Filter tab at right side panel and click on topology >>Drag Giant Component in queries section >>Click on Filter Button>>it will remove less important nodes>>



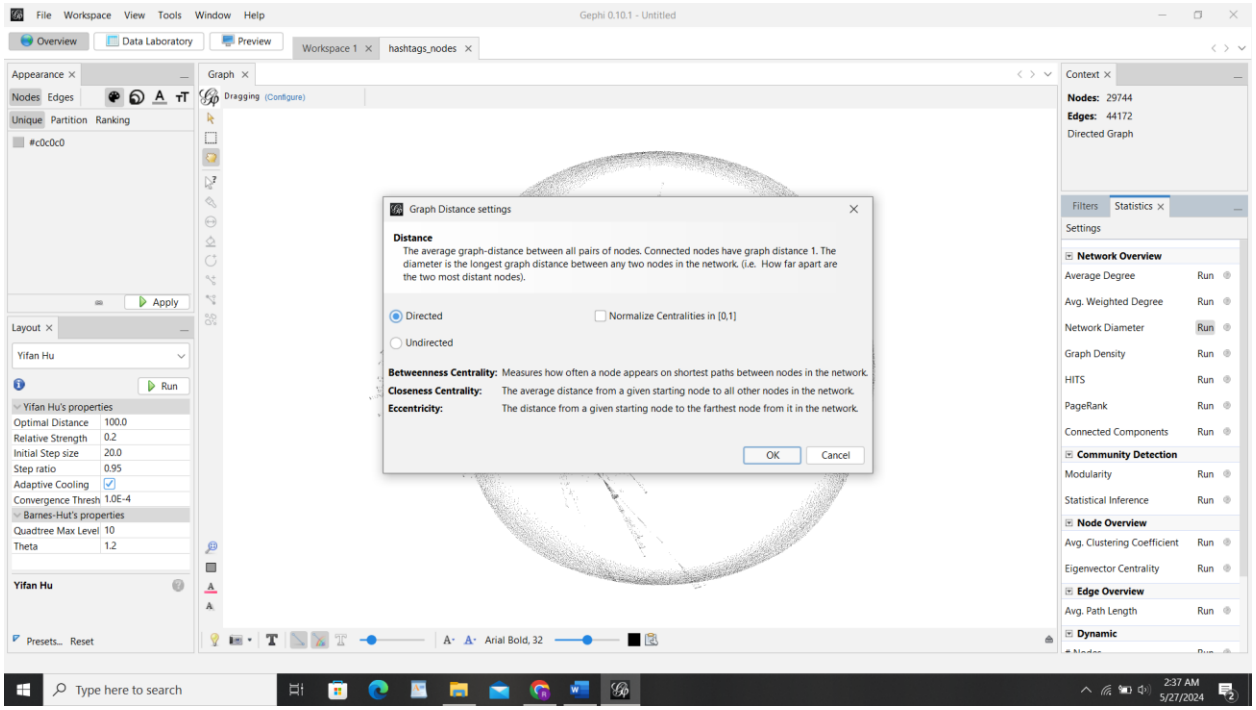
Now Again Run Layout algorithm “Yifan Hu” for getting your nodes clearly visible >> It is showing a fan like structure which means it has hubs >>connected with a degree of one

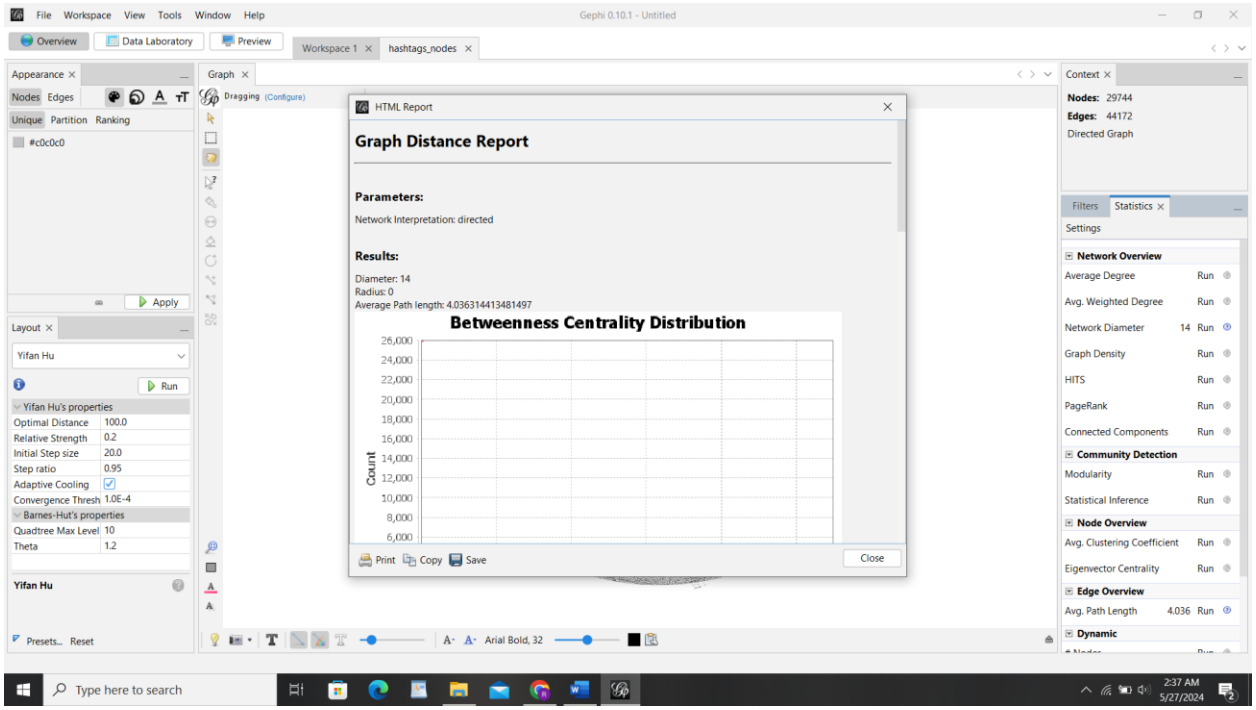


Now Drag Degree Range filter into sub filter of Giant Component>>Select Range as 2 It will gives us much more manageable network >> Run again the yifan hu algorithm >> Network is going to contract and layout into a much more reasonable shape.

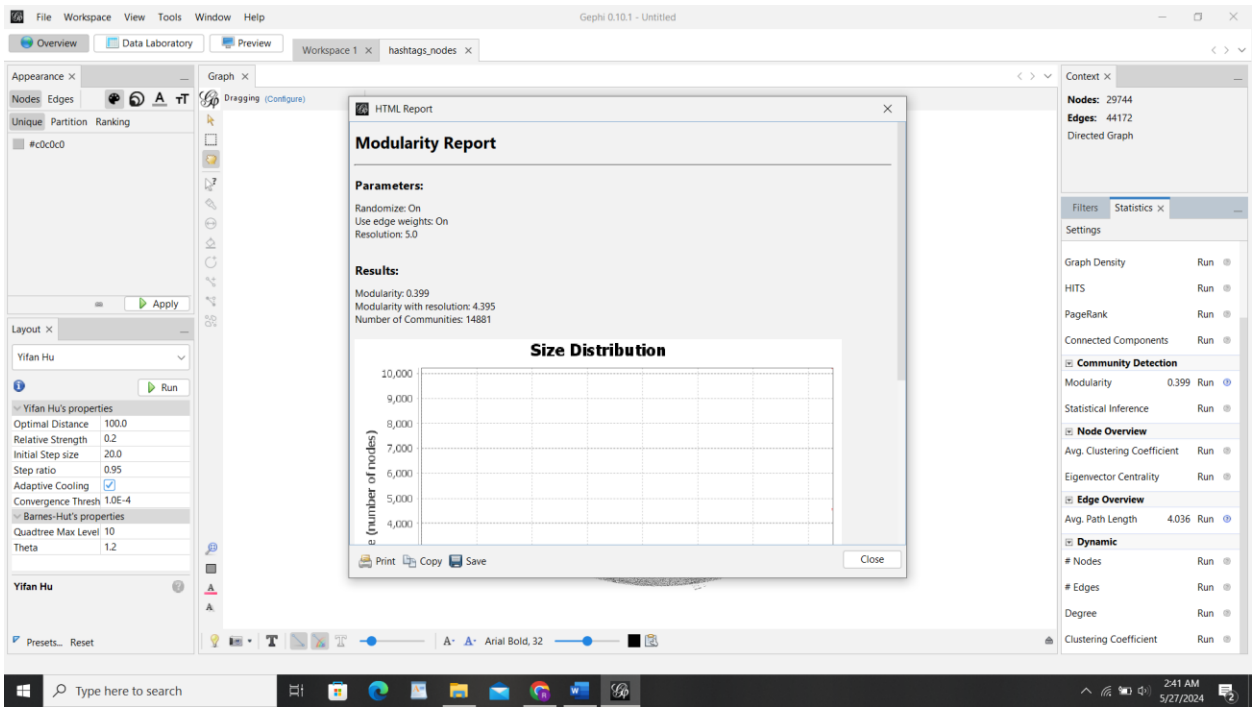


Go to statistics>>Click on Network diameter it will show you betweenness centrality and other centrality

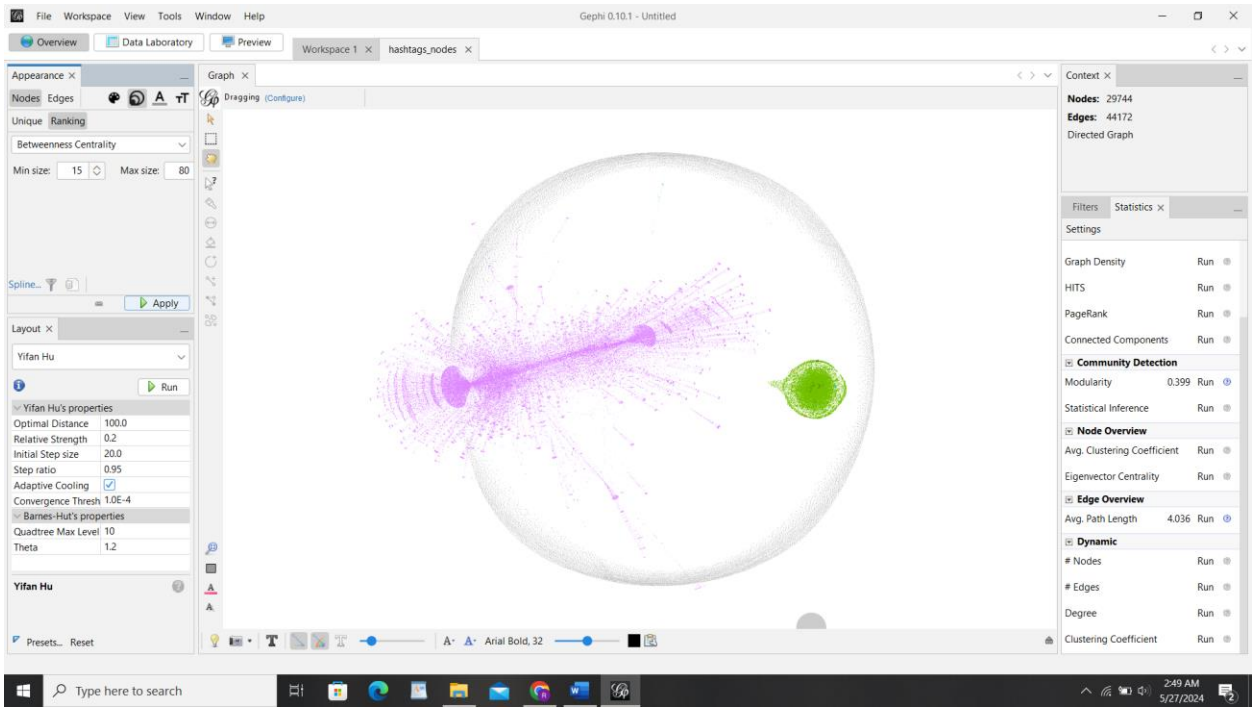




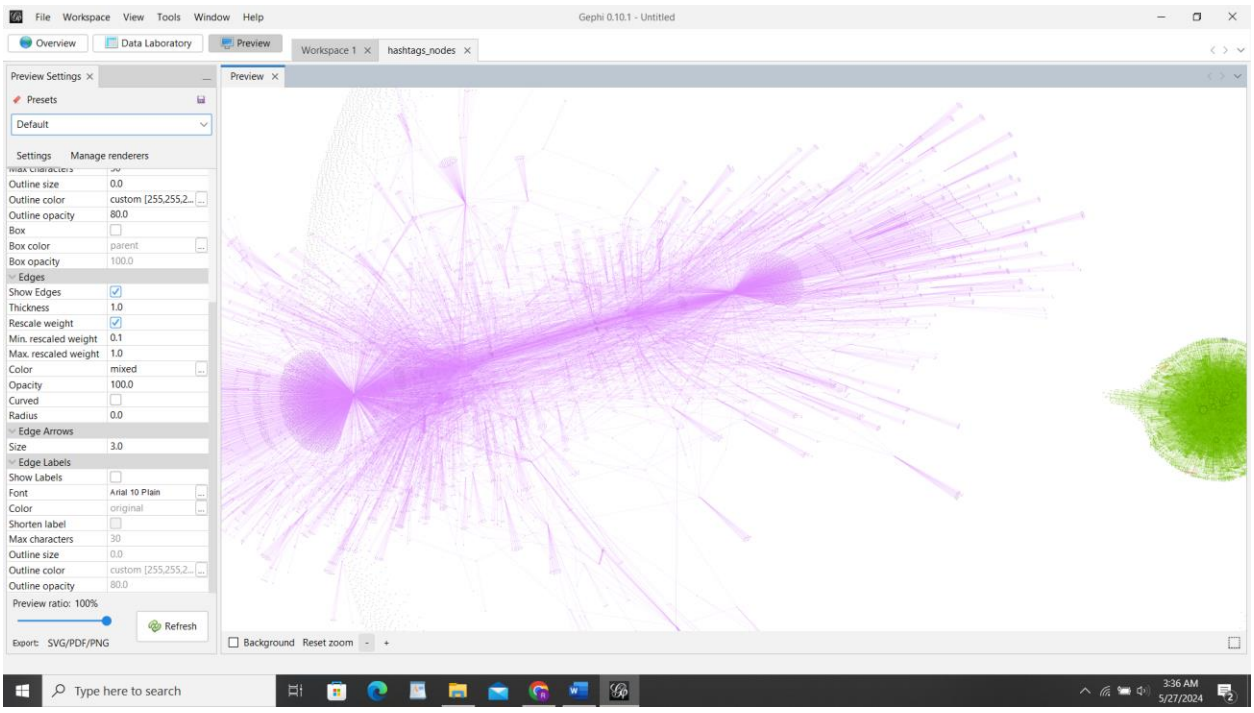
Now Finally run the modularity >>Enter the value as 5 in resolution >>click okay it will show you number of communities report



Now for visualization>>Go to Appearance tab>>Nodes>>Partition>>Modularity Class >>click apply>>it will show the clustering with colors >> go to size symbol>>Ranking>>Select Betweenness Centrality -min size 15 to max size 80>>Apply



Click on Preview >> Adjust your nodes labels and edges level settings


File Workspace View Tools Window Help
Gephi 0.10.1 - Untitled
Overview
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hashtags_nodes
Preview Settings
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Manage renderers
Outline size 0.0
Outline color custom [255,255,2...
Outline opacity 80.0
Box
Box color parent
Box opacity 100.0
Edges
Show Edges
Thickness 1.0
Rescale weight
Min. rescaled weight 0.1
Max. rescaled weight 1.0
Color mixed
Opacity 100.0
Curved
Radius 0.0
Edge Arrows
Size 3.0
Edge Labels
Show Labels
Font Arial 10 Plain
Color original
Shorten label
Max characters 30
Outline size 0.0
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Export: SVG/PDF/PNG
Preview
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Reset zoom
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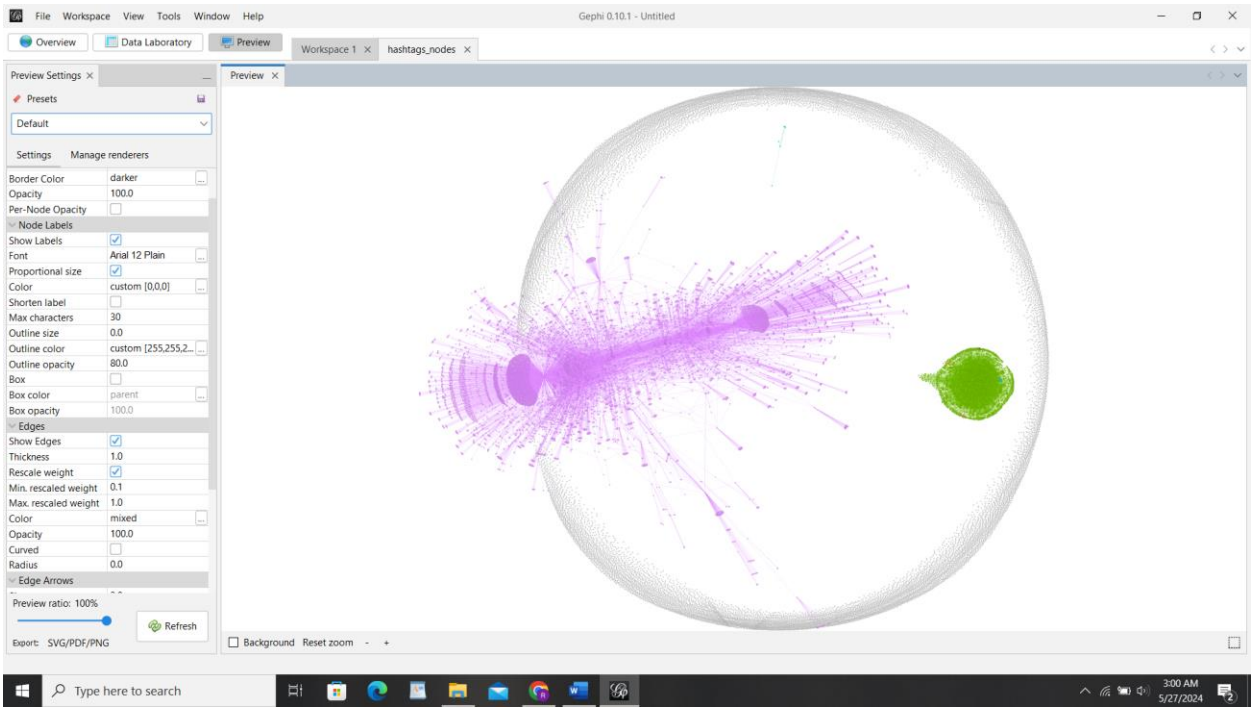
3:36 AM
5/27/2024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Settings
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Per-Node Opacity
Node Labels
Show Labels
Font Arial 12 Plain
Proportional size
Color custom [0,0,0]
Shorten label
Max characters 30
Outline size 0.0
Outline color custom [255,255,2...
Outline opacity 80.0
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Box color parent
Box opacity 100.0
Edges
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Thickness 1.0
Rescale weight
Min. rescaled weight 0.1
Max. rescaled weight 1.0
Color mixed
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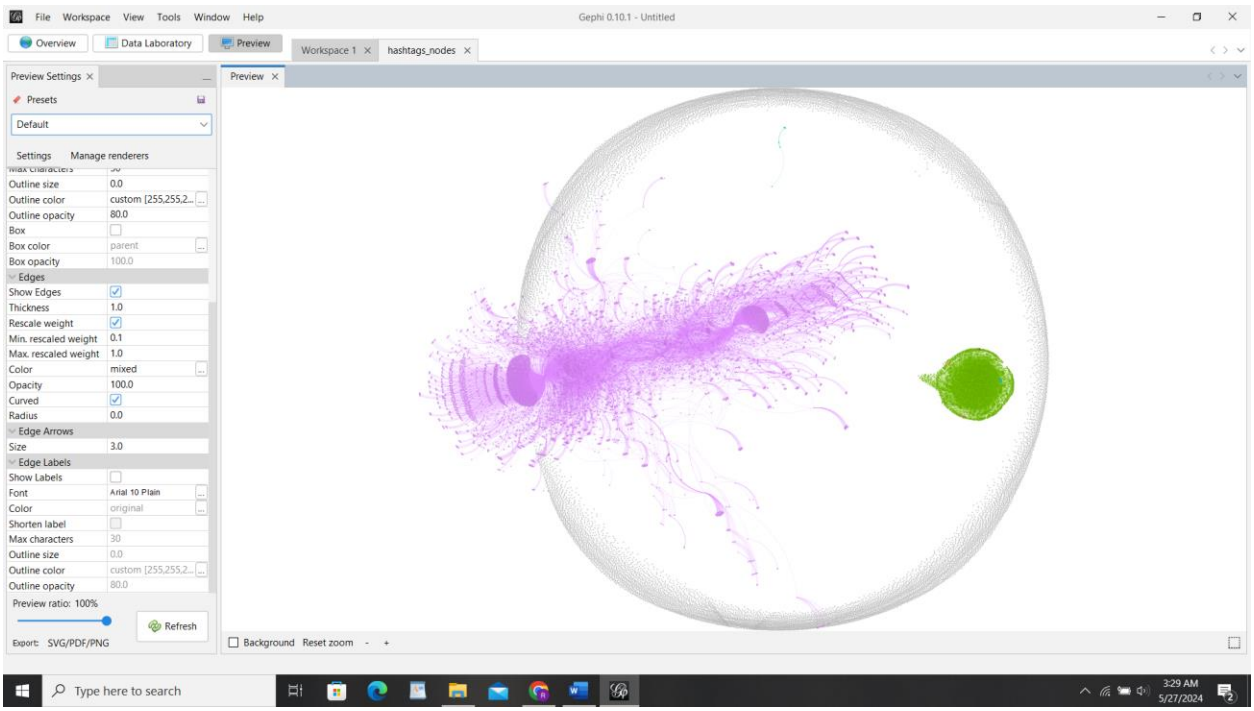
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Settings
Manage renderers
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Outline color custom [255,255,2...
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Opacity 100.0
Curved
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Edge Arrows
Size 3.0
Edge Labels
Show Labels
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Shorten label
Max characters 30
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Preview ratio: 100%
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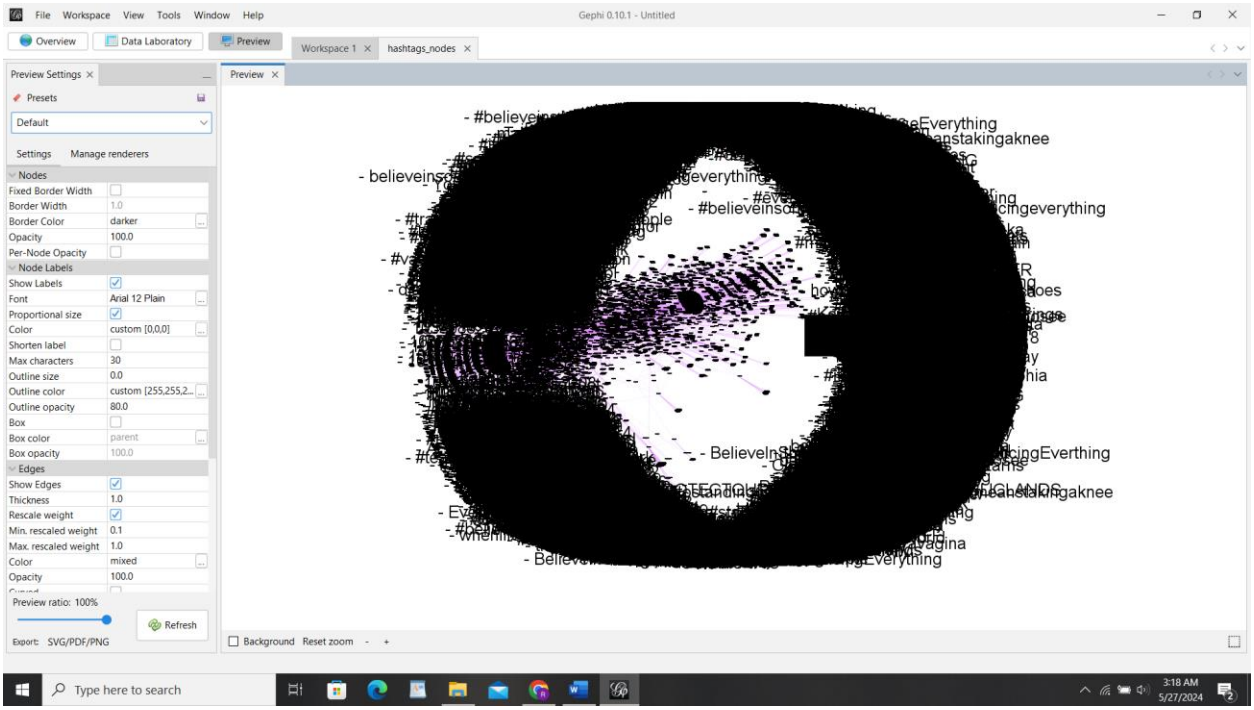
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Preview Settings
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Settings
Manage renderers
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Border Width 1.0
Border Color darker
Opacity 100.0
Per-Node Opacity
Node Labels
Show Labels
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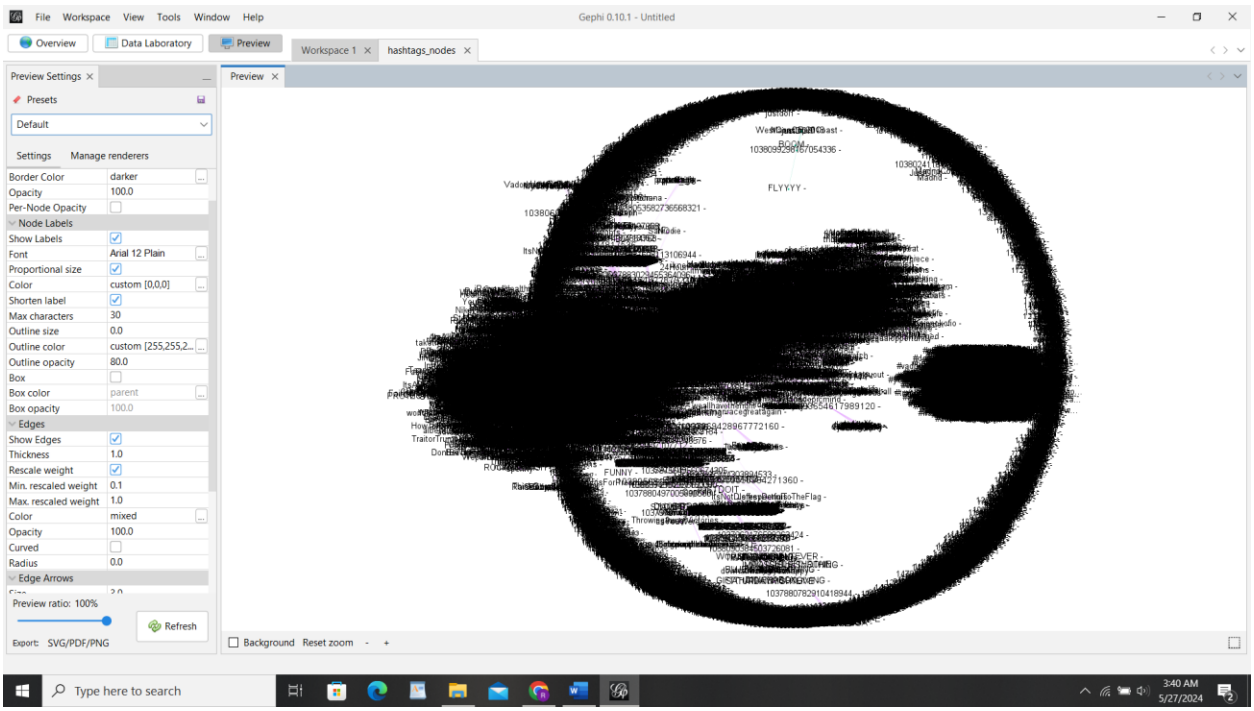
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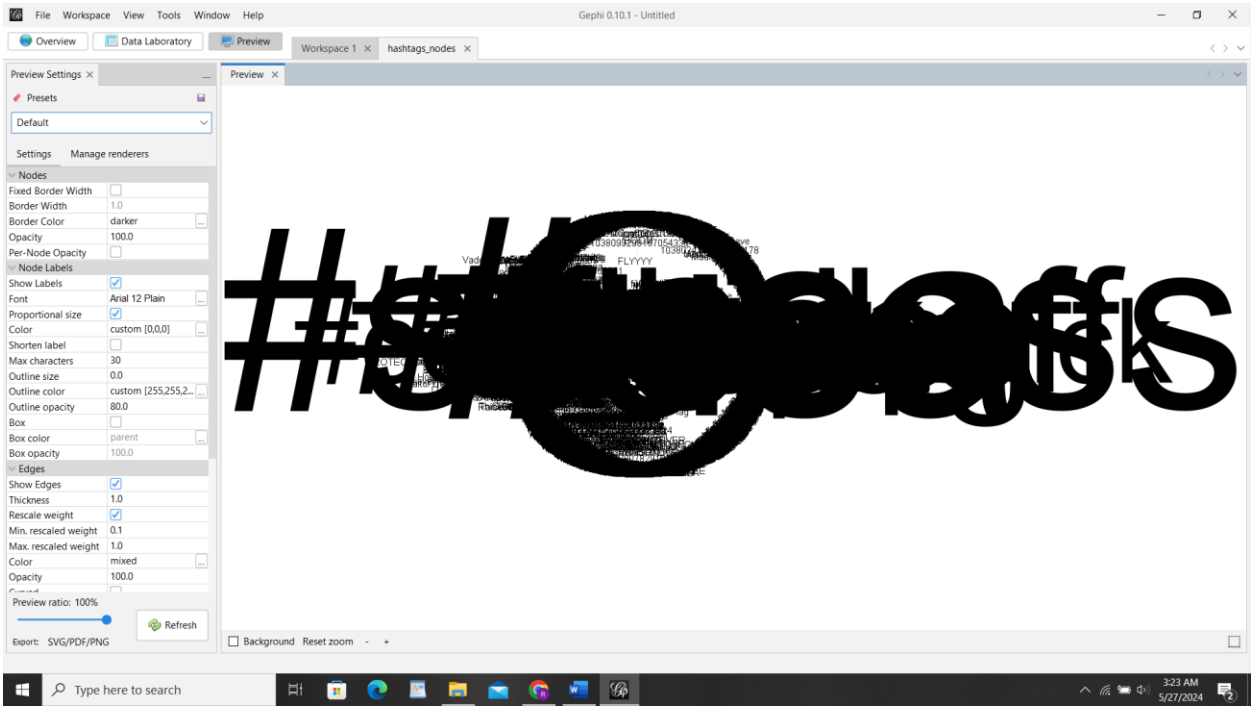
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Node Labels
Show Labels
Font Arial 12 Plain
Proportional size
Color custom [0,0,0]
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Max characters 30
Outline size 0.0
Outline color custom [255,255,2...
Outline opacity 80.0
Box
Box color parent
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Min. rescaled weight 0.1
Max. rescaled weight 1.0
Color mixed
Opacity 100.0
Preview ratio: 100%
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Preview
Background
Reset zoom
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