

Homework -3

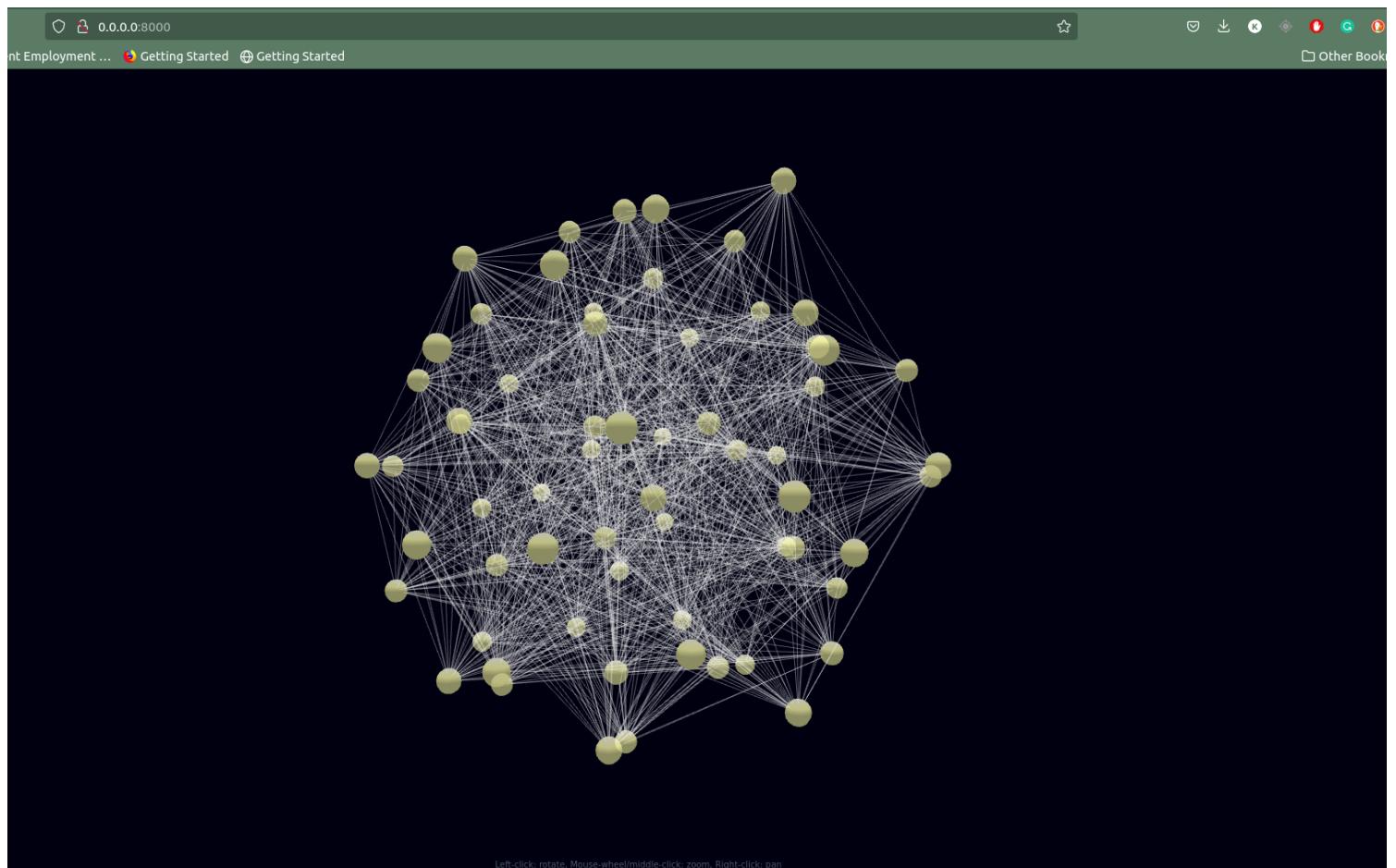
Group -7

Kavya Kavuri - kk1069

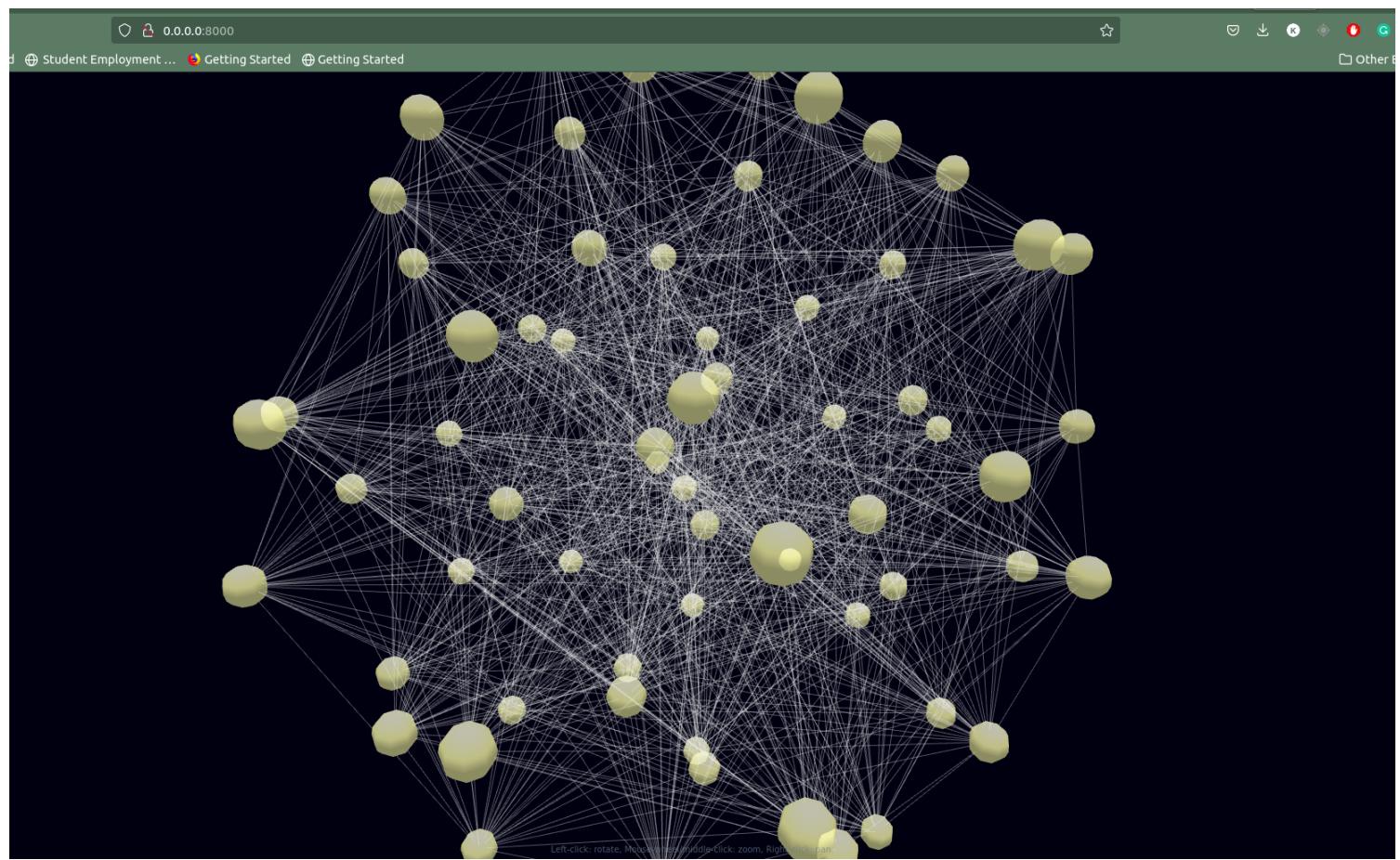
Kavit Shah - kas672

Part A

1. D3:

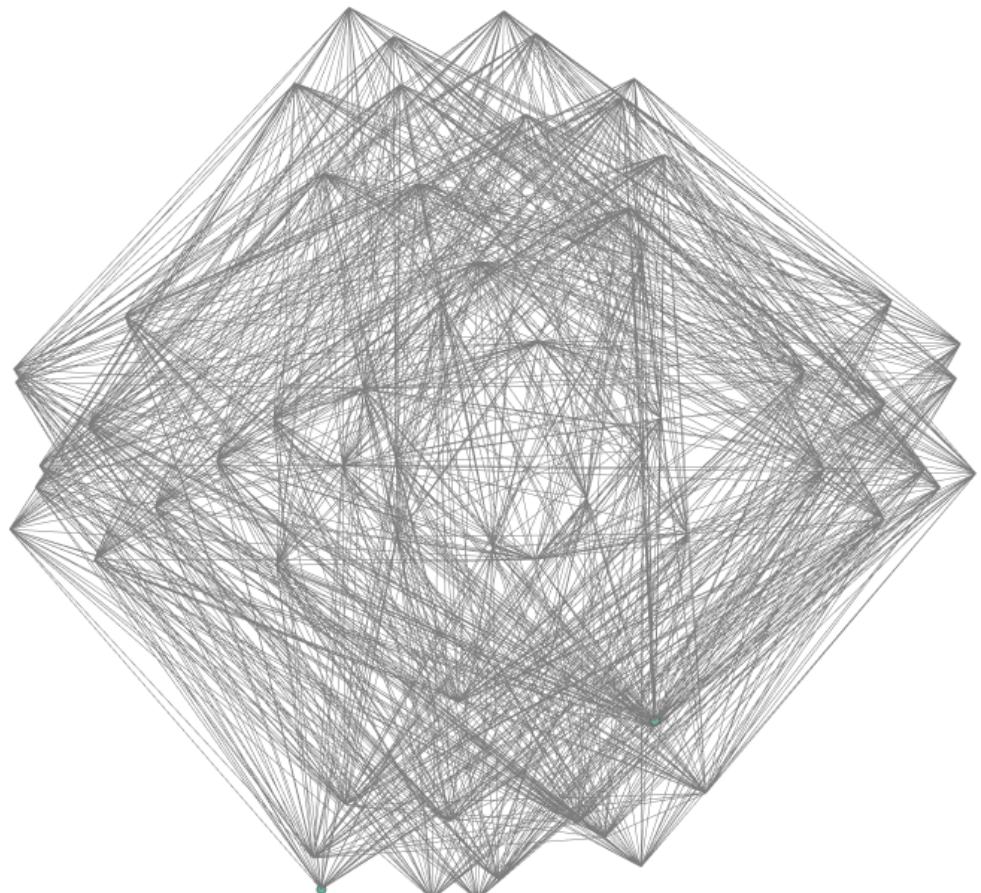


Zoomed in:



2. Plotly:

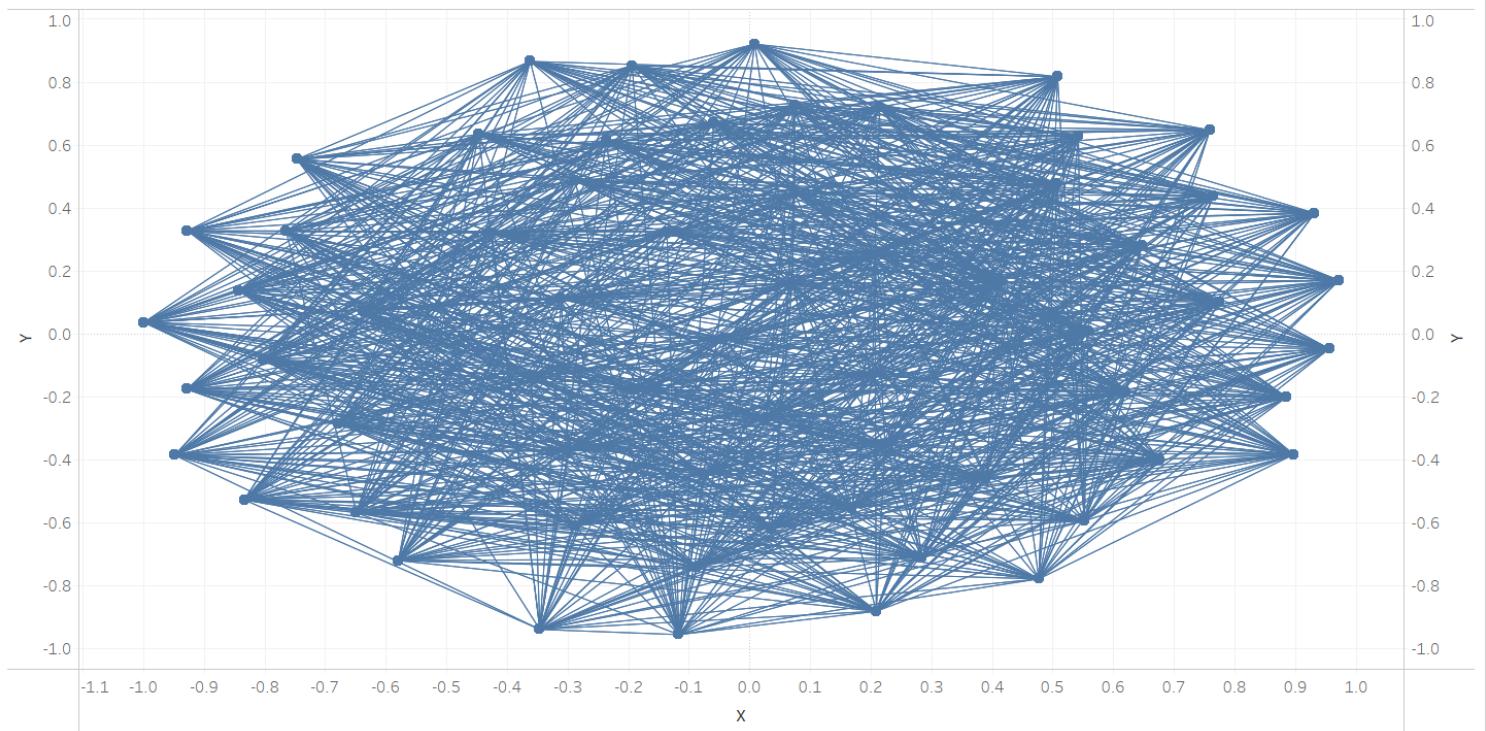
Network of 2184 edges



Data source: cit-Patents_10_32_1772975.csv

3. Tableau:

Sheet 1



4. Levels of interaction between D3, Plotly, Tableau:

All these 3 tools offer a high range of interactivity. Although in D3, we might have to do extra work in learning how to implement the graph. Whereas in Plotly and Tableau, the interactivity features are already build-in within the tool. Hence, it becomes easy to apply interactive features to our plot. If we have to order these 3 tools on the basis of interactivity alone, it would be – D3, Tableau and Plotly. On the other hand, if we have to order them based on the ease of implementing interactivity to the plots, it would be Tableau, Plotly and D3.

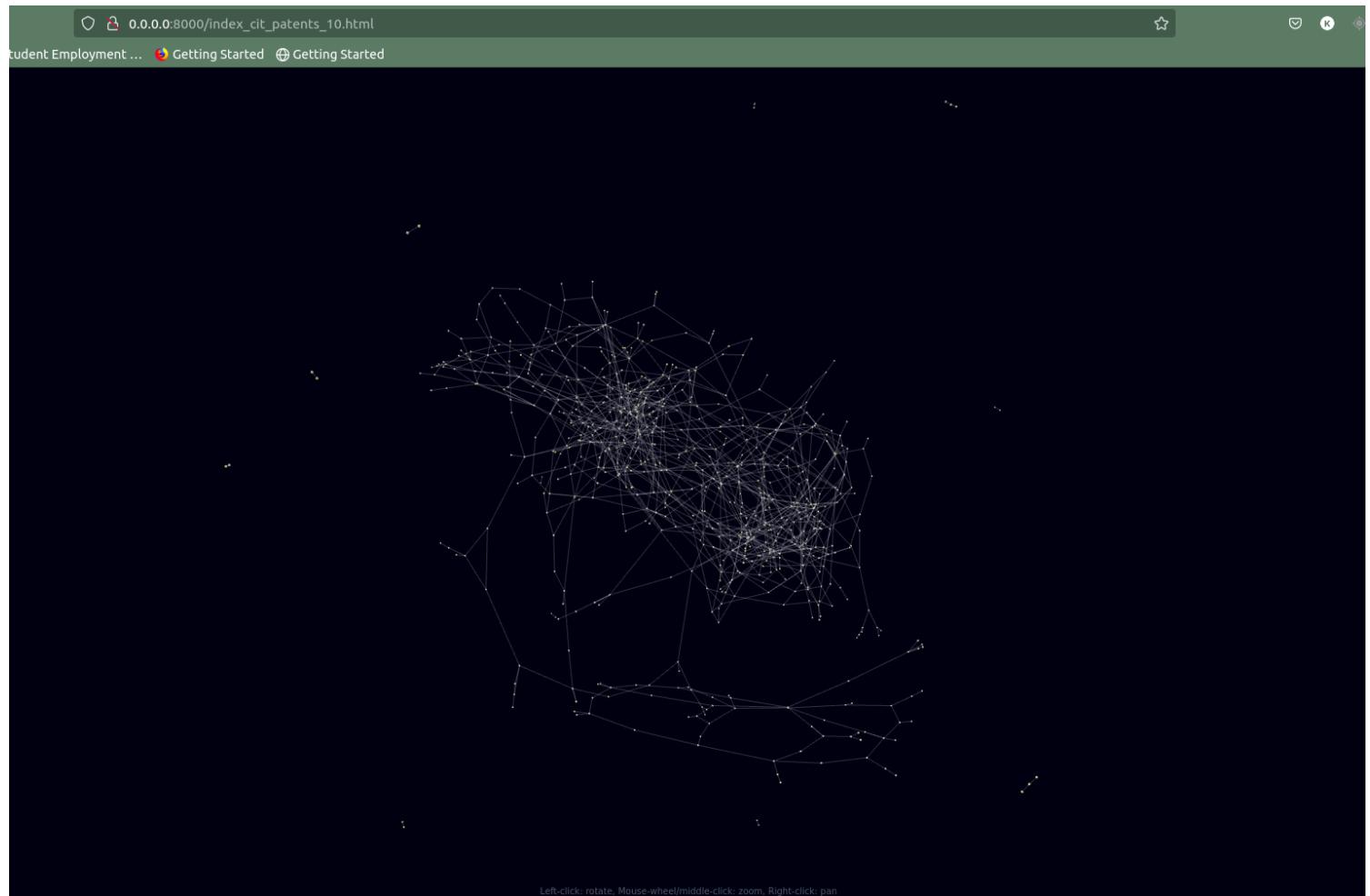
5. Best for our project:

D3 has a big learning curve and Tableau is not flexible enough to embed into other applications, so we chose Plotly which is balancing everything.

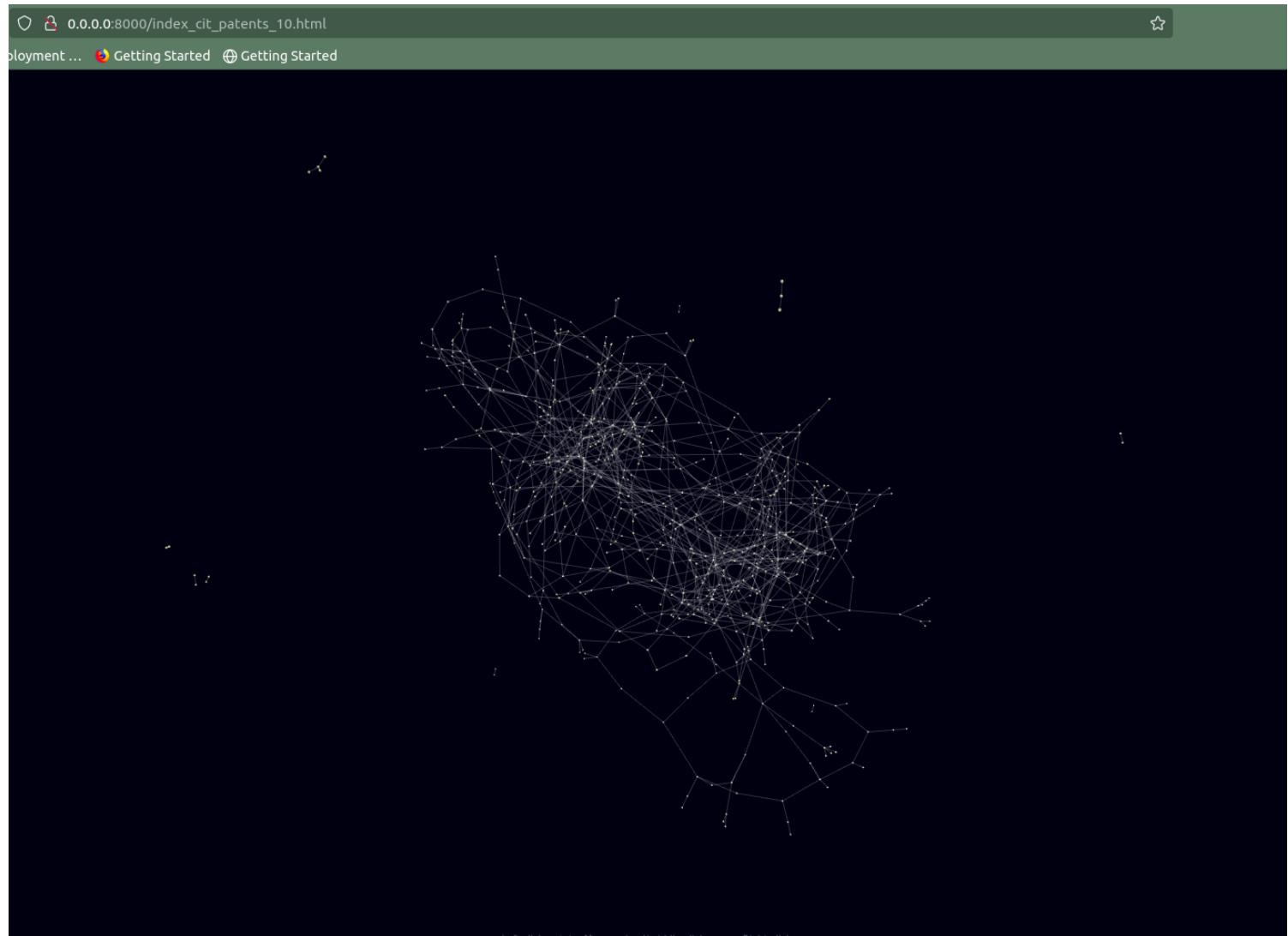
Part B

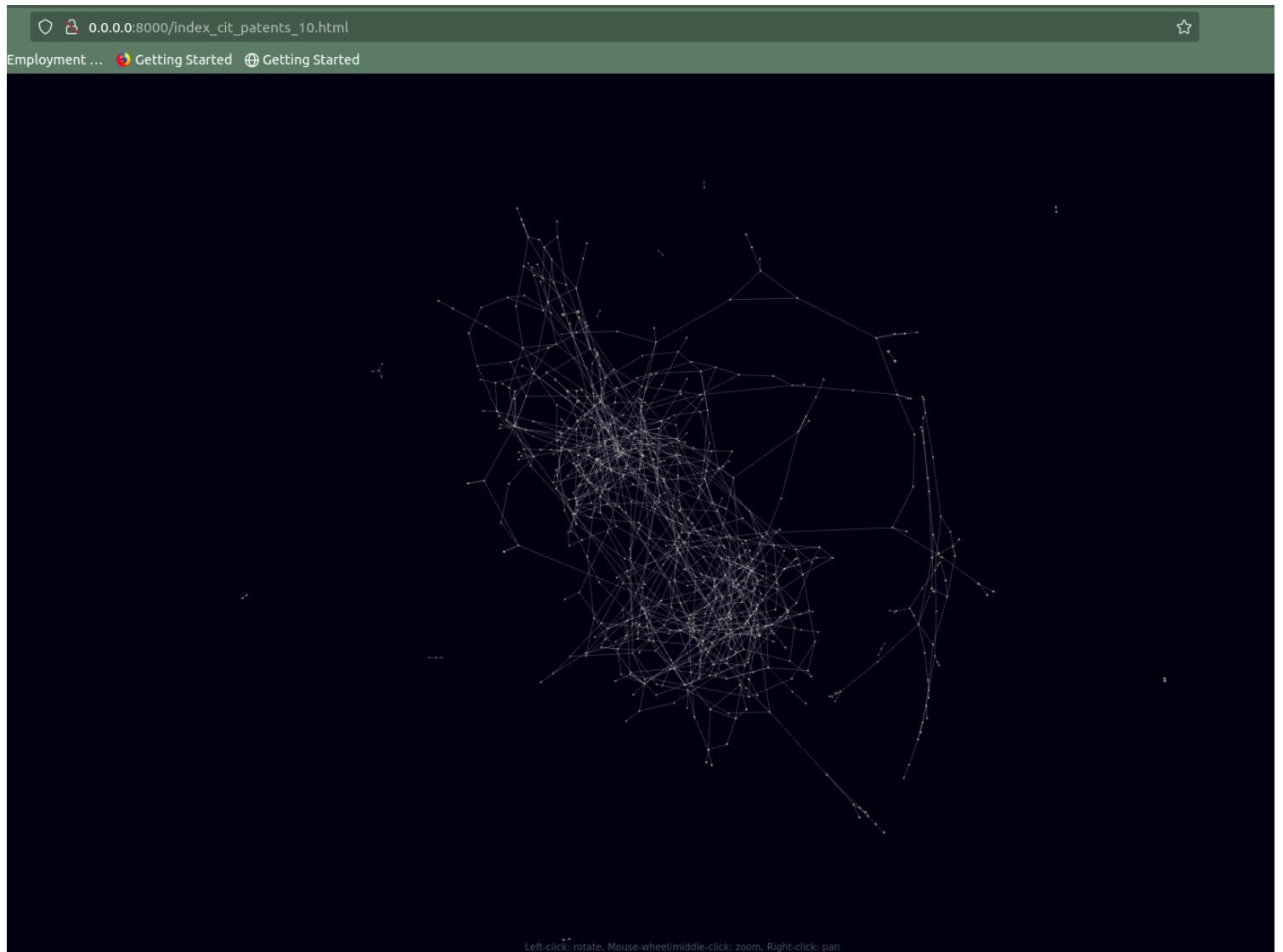
1. D3:

2**10:

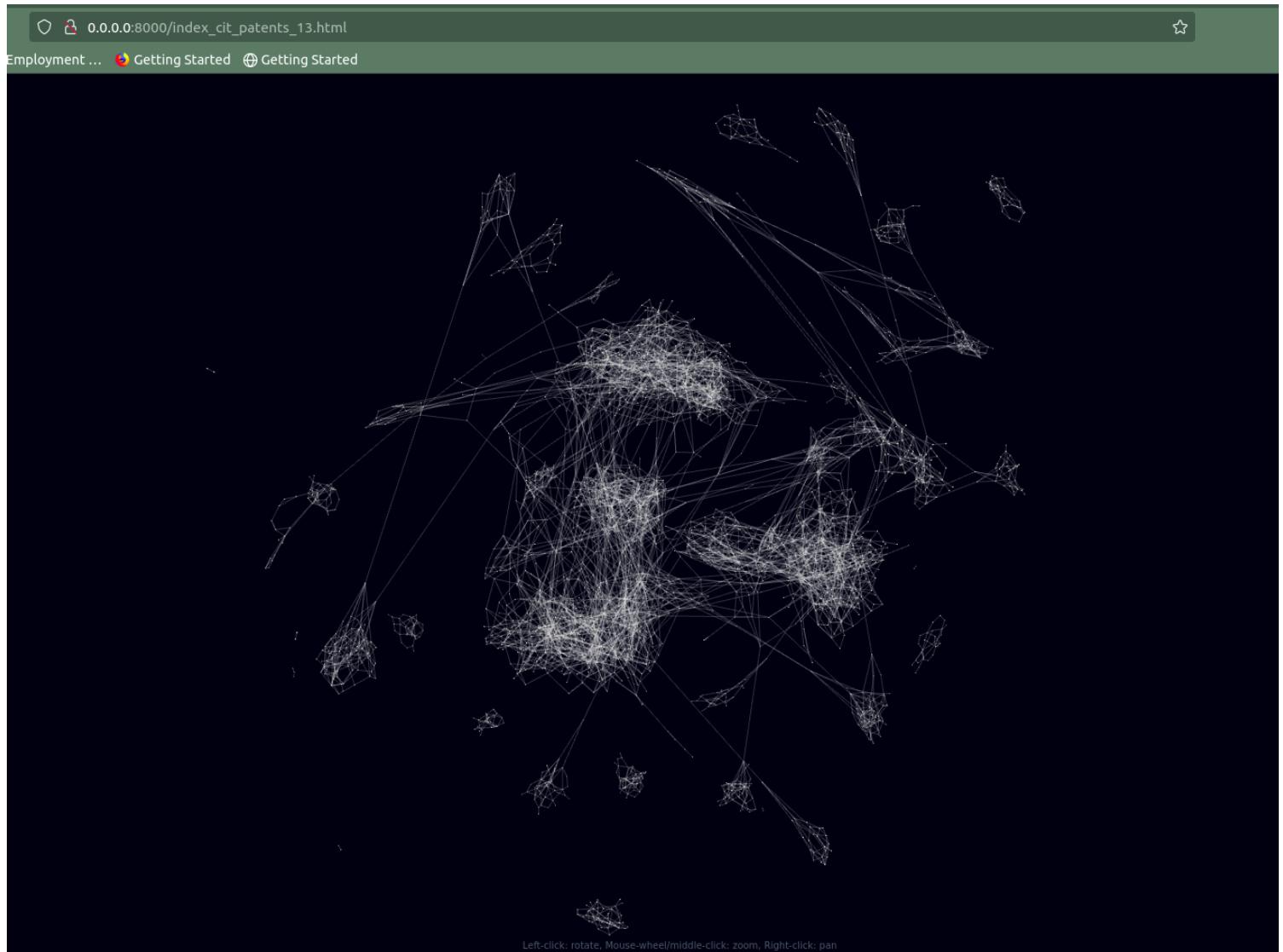


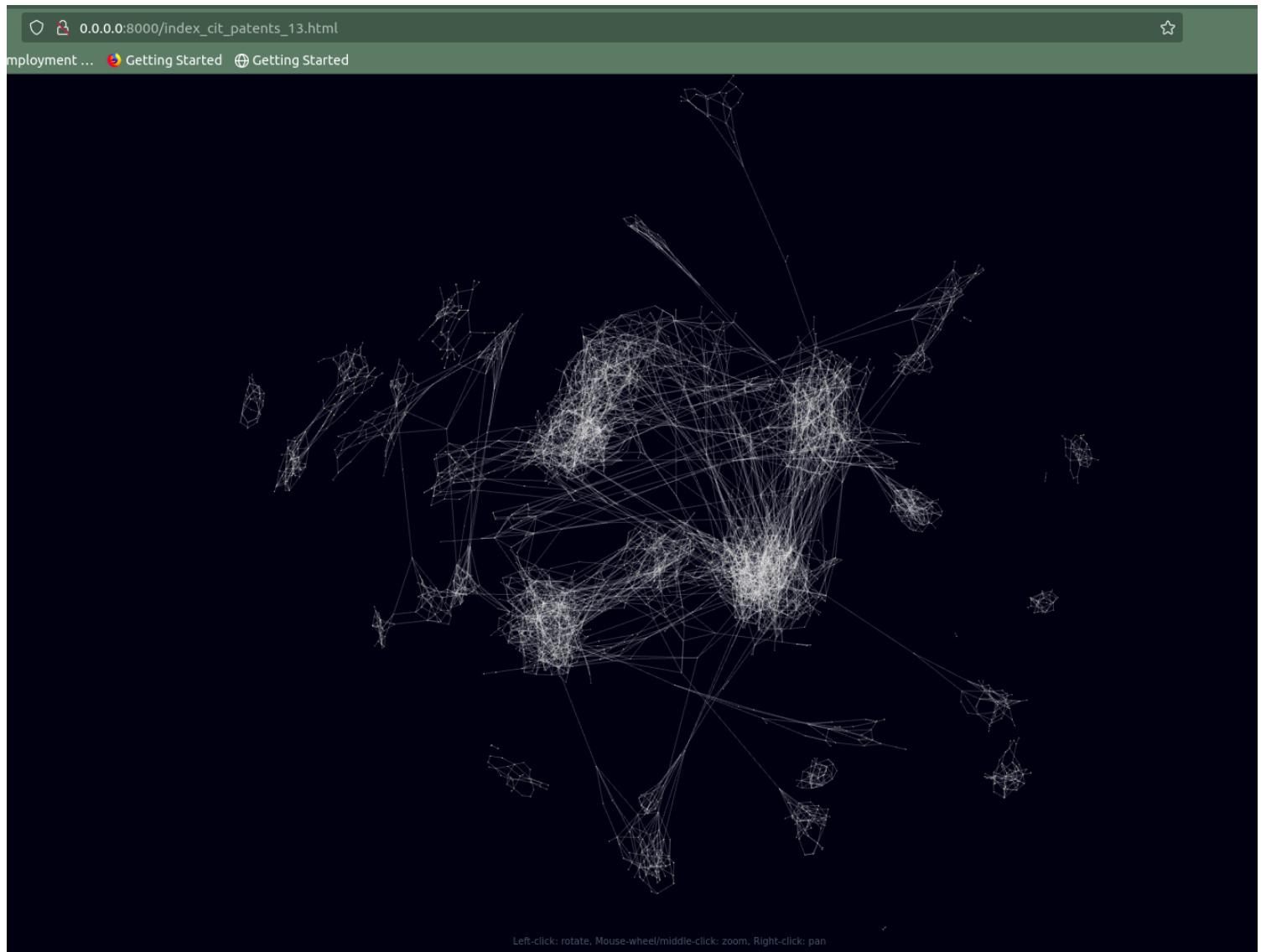
Different angles:

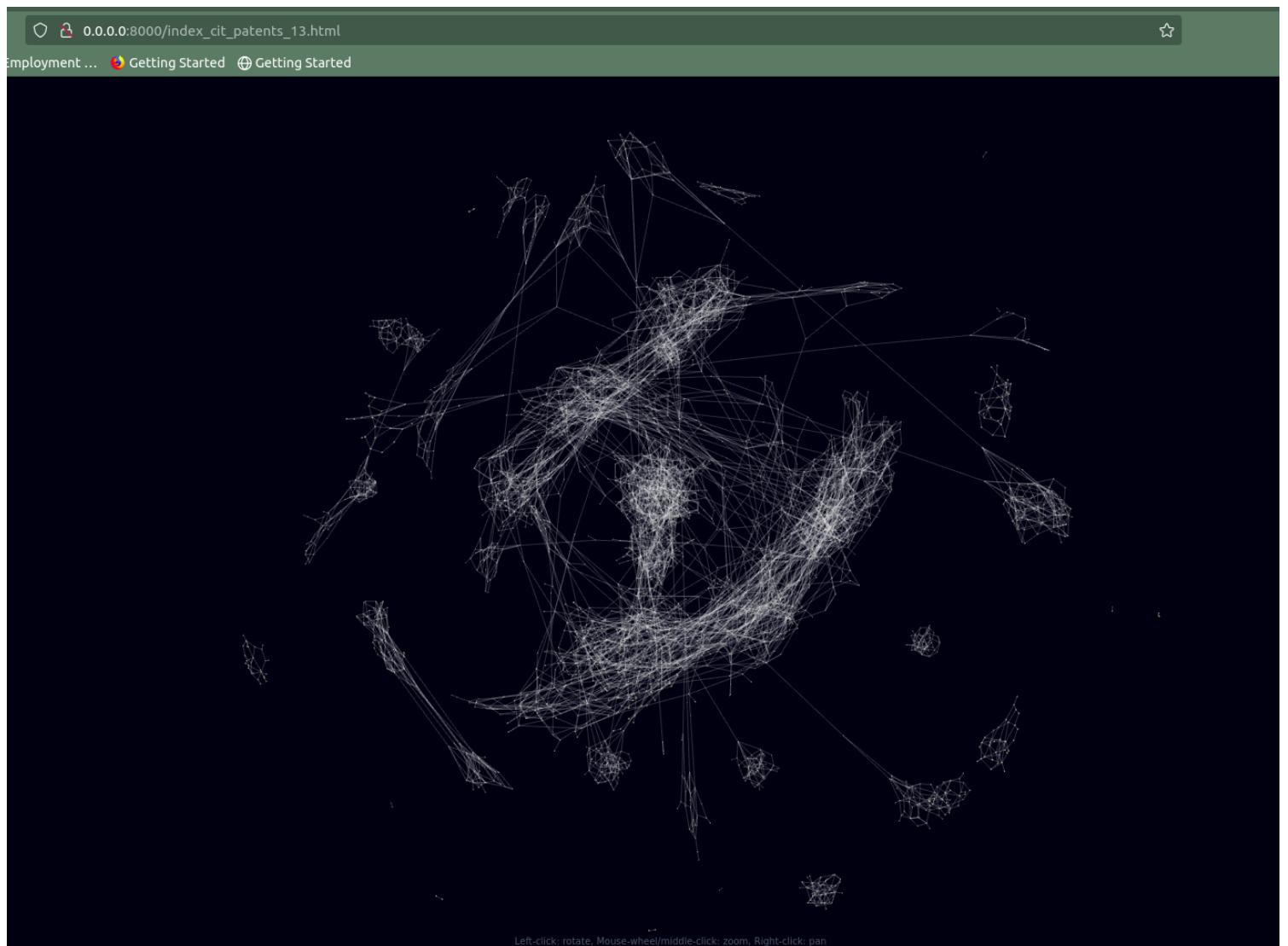




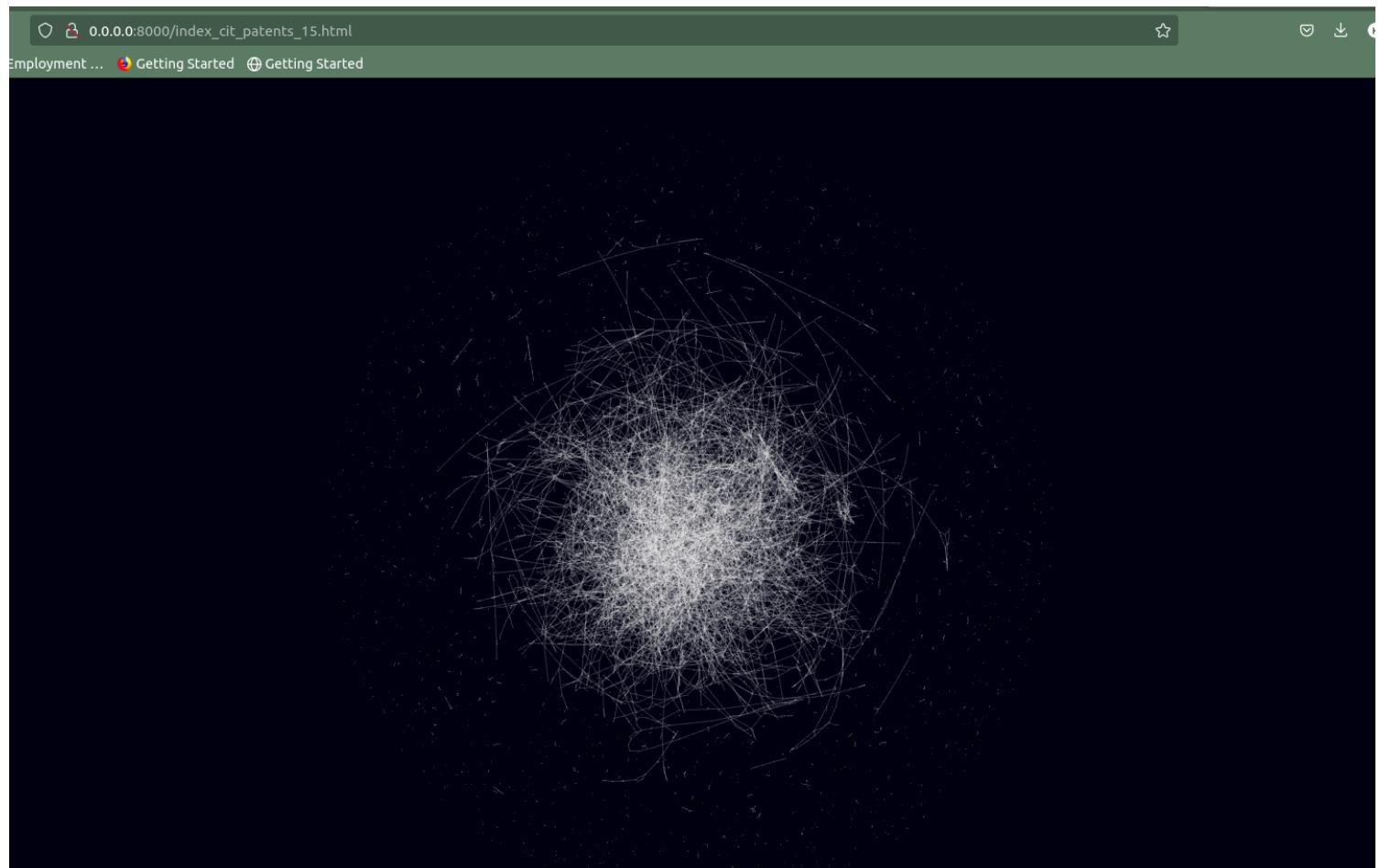
2**13:







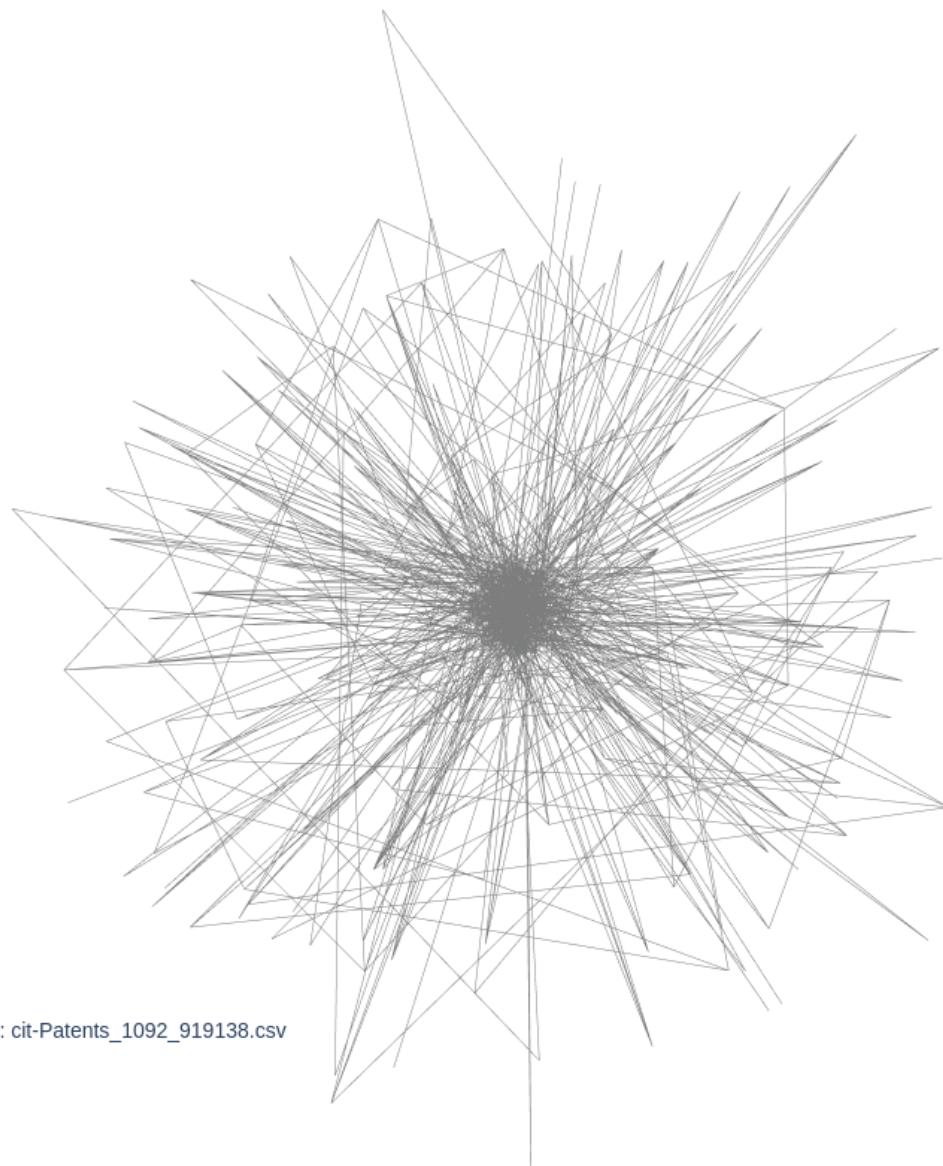
2**15:



3. The software that we used is iGraph. We created the graph using iGraph and rendered the image using Plotly.

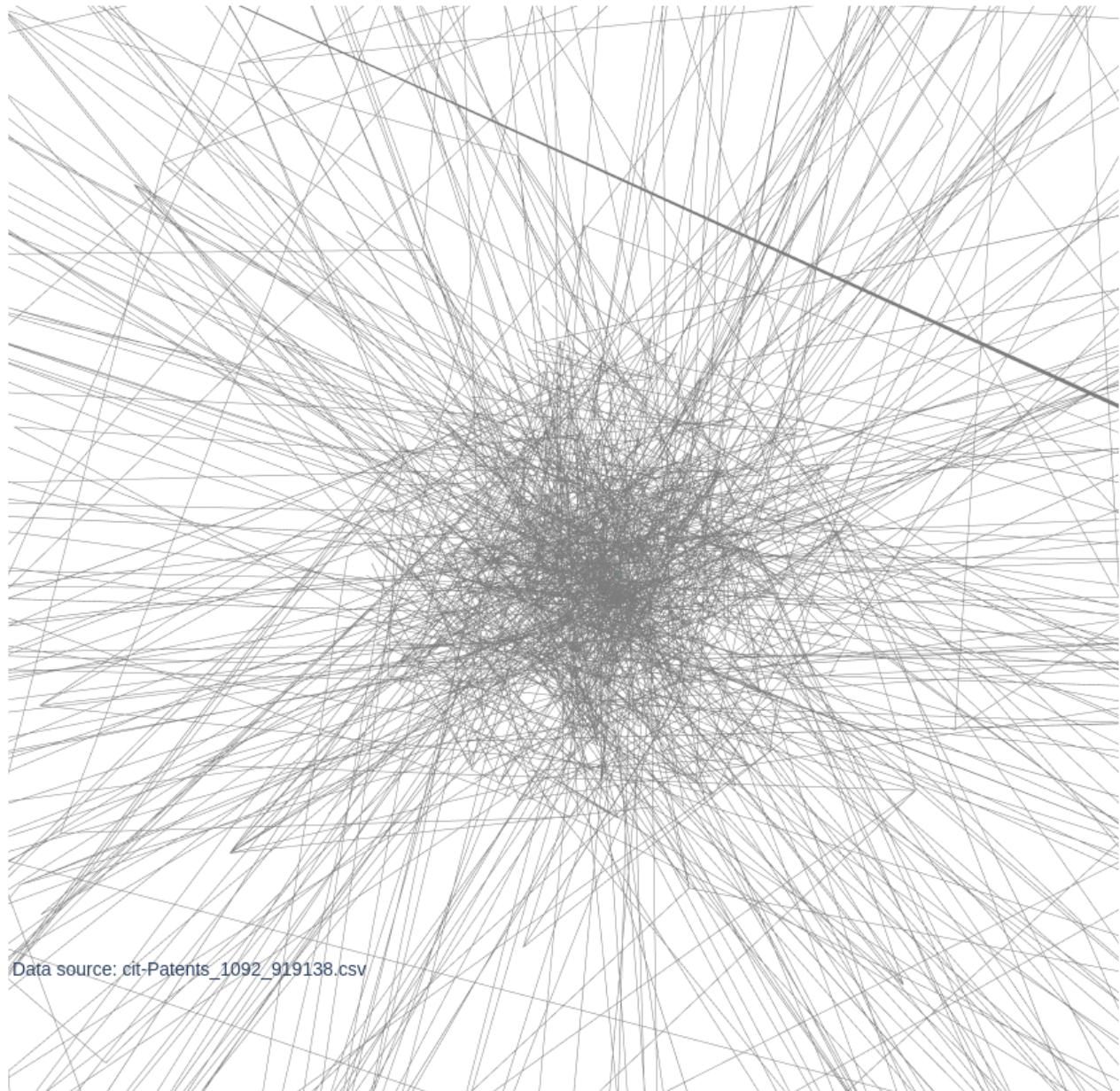
This is 2^{10} (i.e., 1092 edges) graph:

Network of 1092 edges



Zoomed:

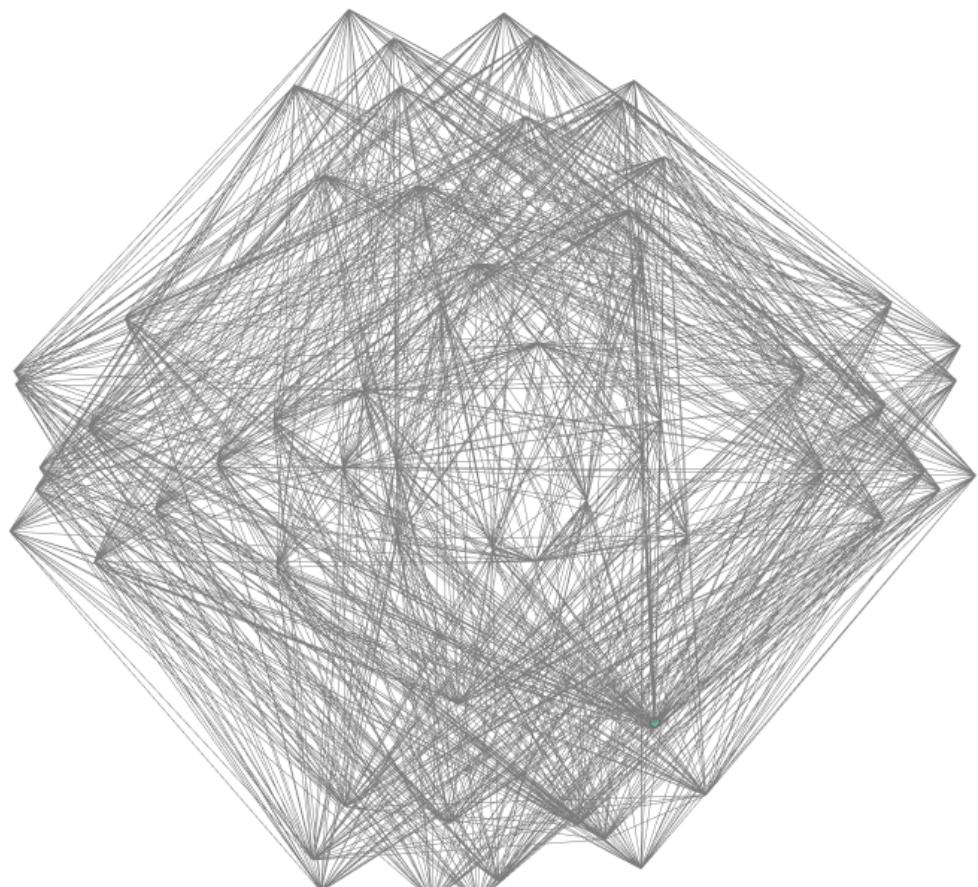
Network of 1092 edges



Data source: cit-Patents_1092_919138.csv

This is network of 2184 edges:

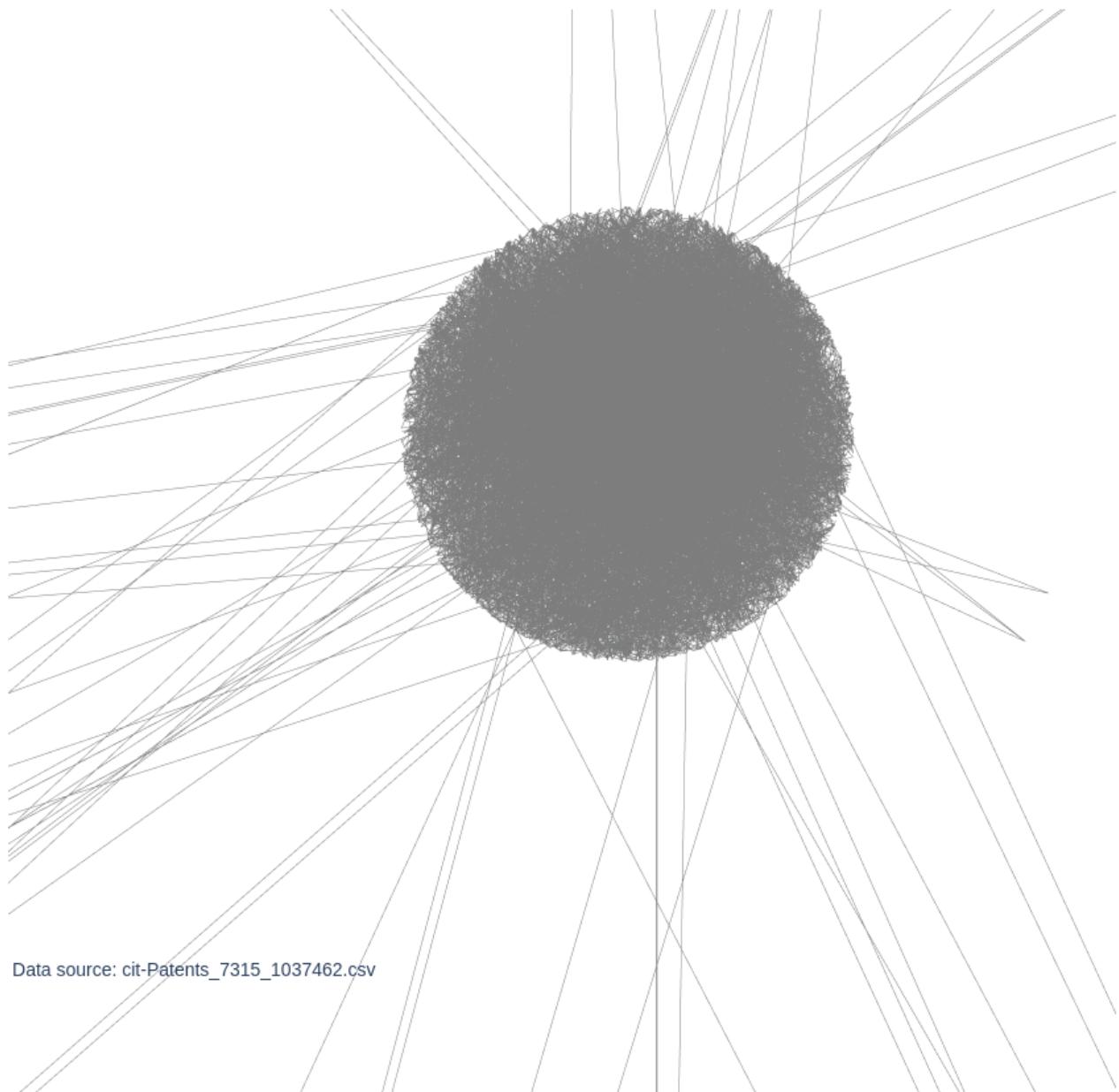
Network of 2184 edges



Data source: cit-Patents_10_32_1772975.csv

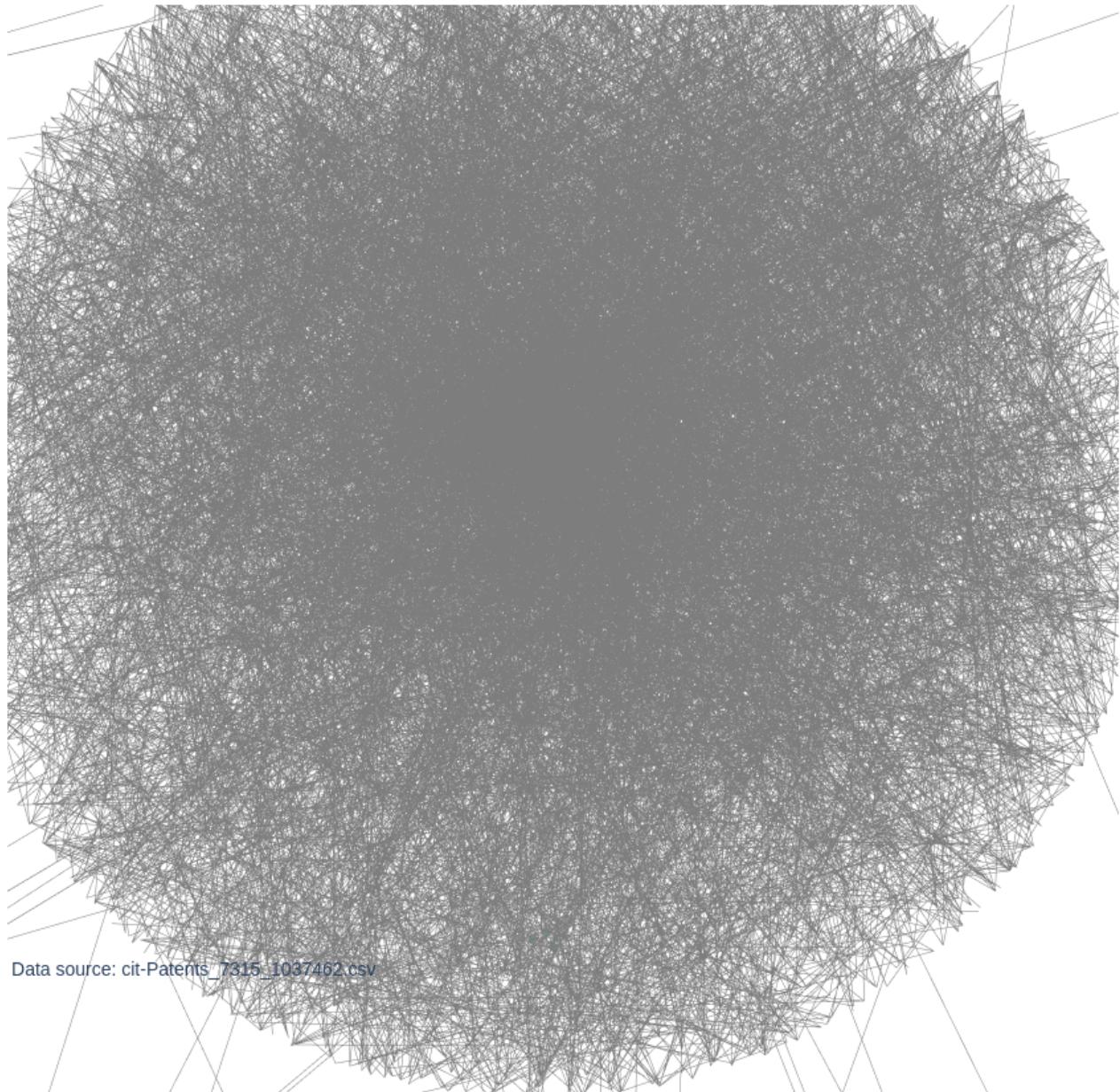
This is network of $2^{**}13$ (i.e., 7315 edges) graph:

Network of 7315 edges



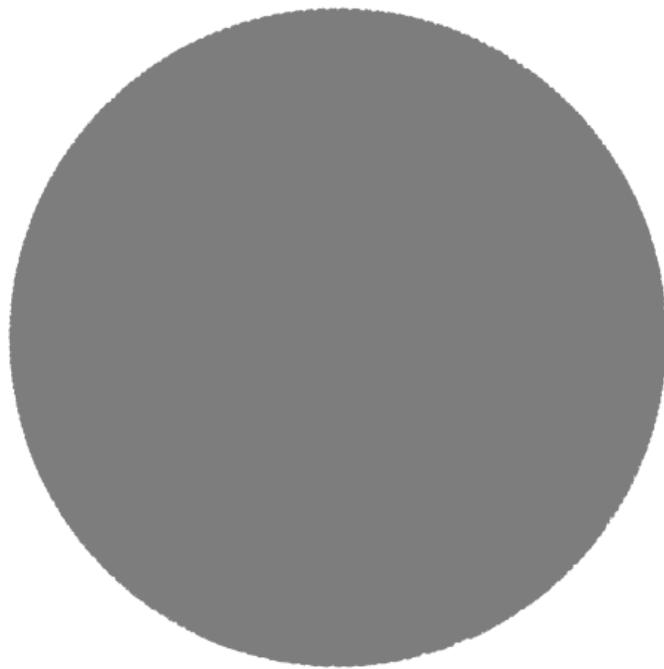
Zoomed in:

Network of 7315 edges



This is 2^{15} graph(i.e., 206202 edges) graph:

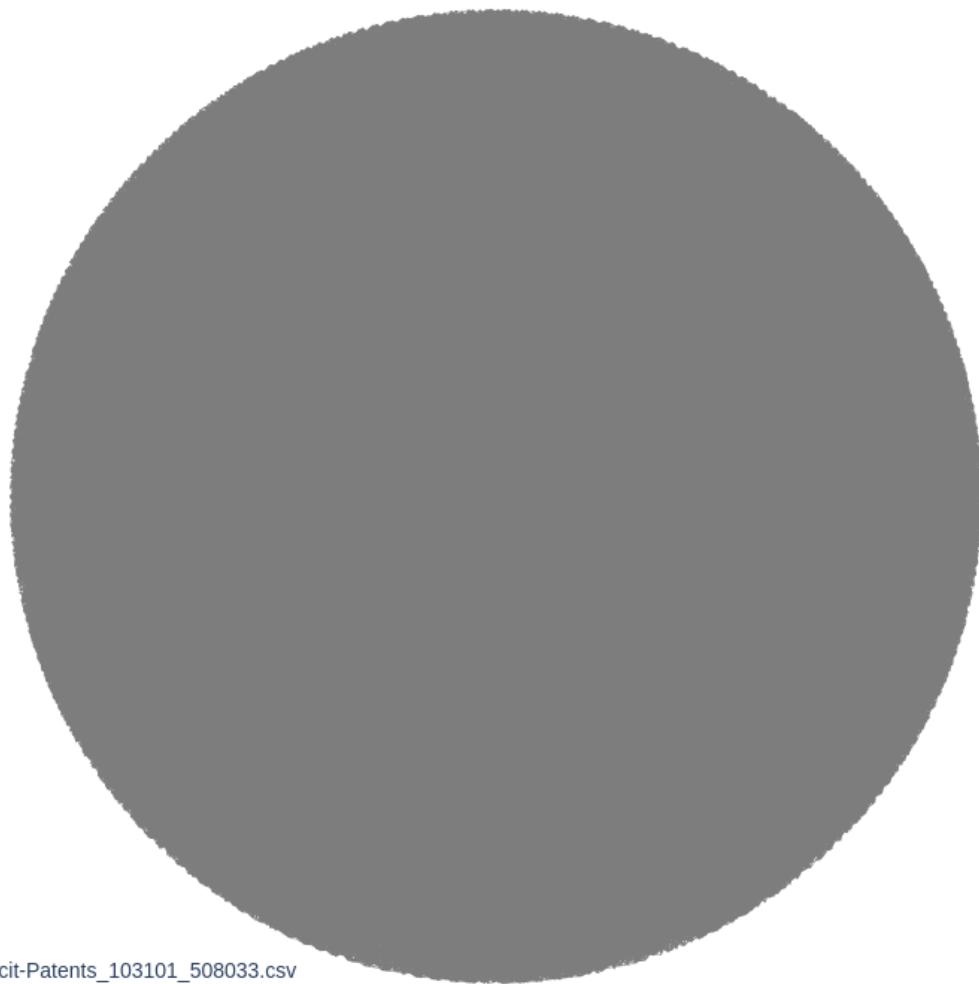
Network of 206202 edges



Data source: cit-Patents_103101_508033.csv

Zoomed in:

Network of 206202 edges



Data source: cit-Patents_103101_508033.csv

More zoomed in:

Network of 206202 edges



This is the max level upto which plotly supports zooming.

We have drawn 2^{13} dataset and 2^{15} dataset graphs as well, using igraph.

4) Number of edges close to $2^{16} = 65536$ edges is required. The last graph has 206202 edges. We have generated graph for edges close to 2^{18} edges.