



Social media Analysis

Final Assignment

PRESENTED BY,
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A. Number of nodes:
Large: 924
Small: 445

B. Number of Edges:
Large:

- Graph: 3239
- ER Graph : 636
- BA Graph : 923

Small:

- Graph: 1333
- ER Graph : 1470
- BA Graph : 444

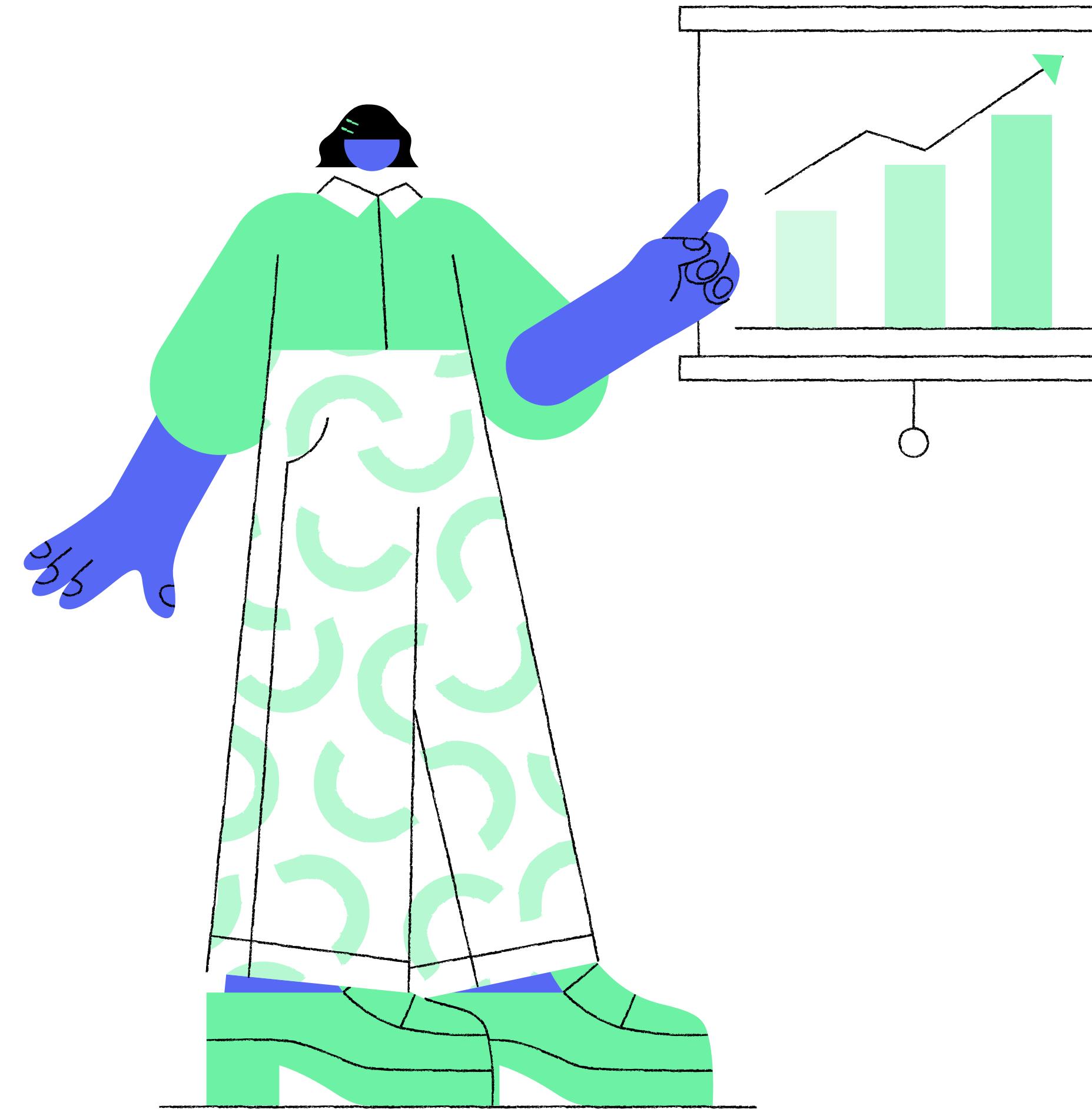
C. Number of triangles and three node paths

Large:

- Graph: 3986, 3612500
- ER Graph : 0 7220
- BA Graph : 0 68207

Small:

- Graph: 2064 209840
- ER Graph : 50 169440
- BA Graph : 0 25135



D. Maximum Degree

Large:

- Graph : 151
- ER Graph : 6
- BA Graph : 66

Small:

- Graph: 27
- ER Graph : 15
- BA Graph : 37

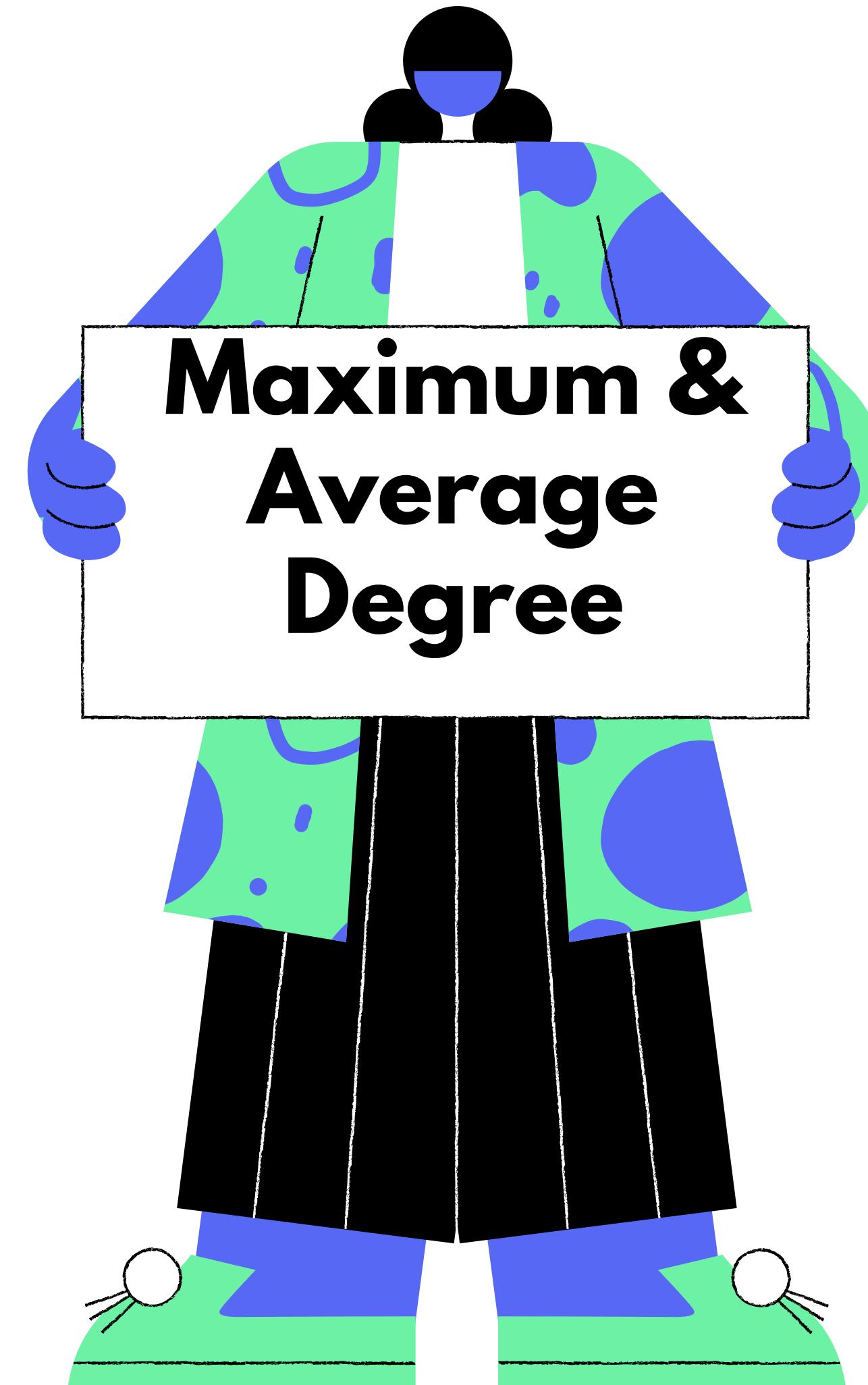
E. Average Degree

Large:

- Graph : 7.010
- ER Graph : 1.378
- BA Graph : 1.997

Small:

- Graph: 5.993
- ER Graph : 6.607
- BA Graph : 1.995





F. Size of Largest Connected Component

Large:

- Graph : 878
- ER Graph : 440
- BA Graph : 924

Small:

- Graph: 117
- ER Graph : 444
- BA Graph : 445



G. Diameter

Large:

- Graph : 10
- ER Graph : 37
- BA Graph : 18

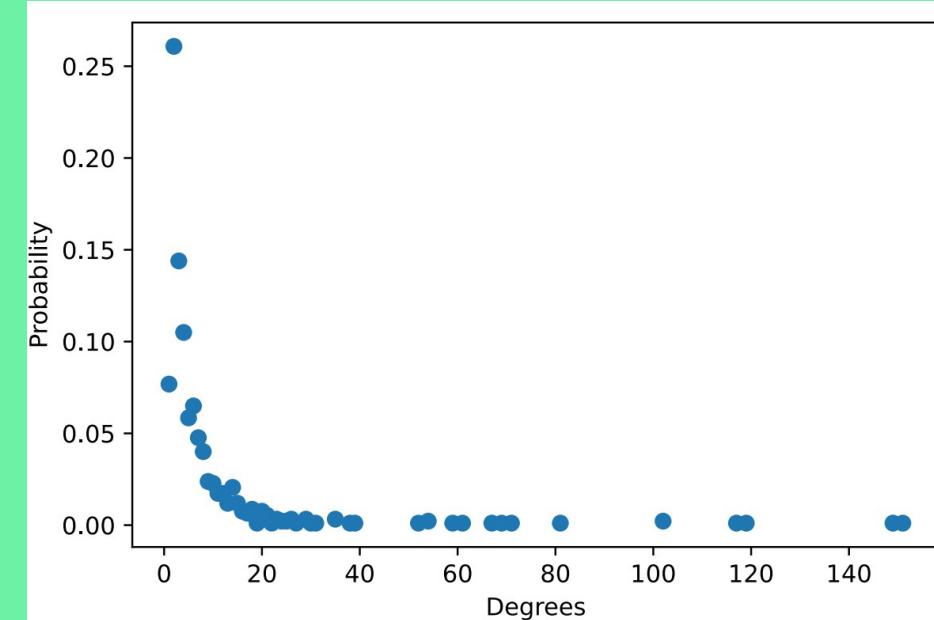
Small:

- Graph: 12
- ER Graph : 6
- BA Graph : 14



H. Power Law

Large



I. Average Clustering Coefficient.

Large:

- Graph : **0.60516**
- ER Graph : **0.00050**
- BA Graph : **0.0**

Small:

- Graph: **0.66850**
- ER Graph : **0.01567**
- BA Graph : **0.0**

J. Algebraic Connectivity

Large:

- Graph : **0.0**
- ER Graph : **0.0**
- BA Graph : **0.00237**

Small:

- Graph: **0.66850**
- ER Graph : **0.01567**
- BA Graph : **0.0**



K. Average Path Length

Large:

- Graph : 3.73490
- ER Graph : 14.47305
- BA Graph : 6.95952

Small:

- Graph: 4.46993
- ER Graph : 3.43965
- BA Graph : 6.08085

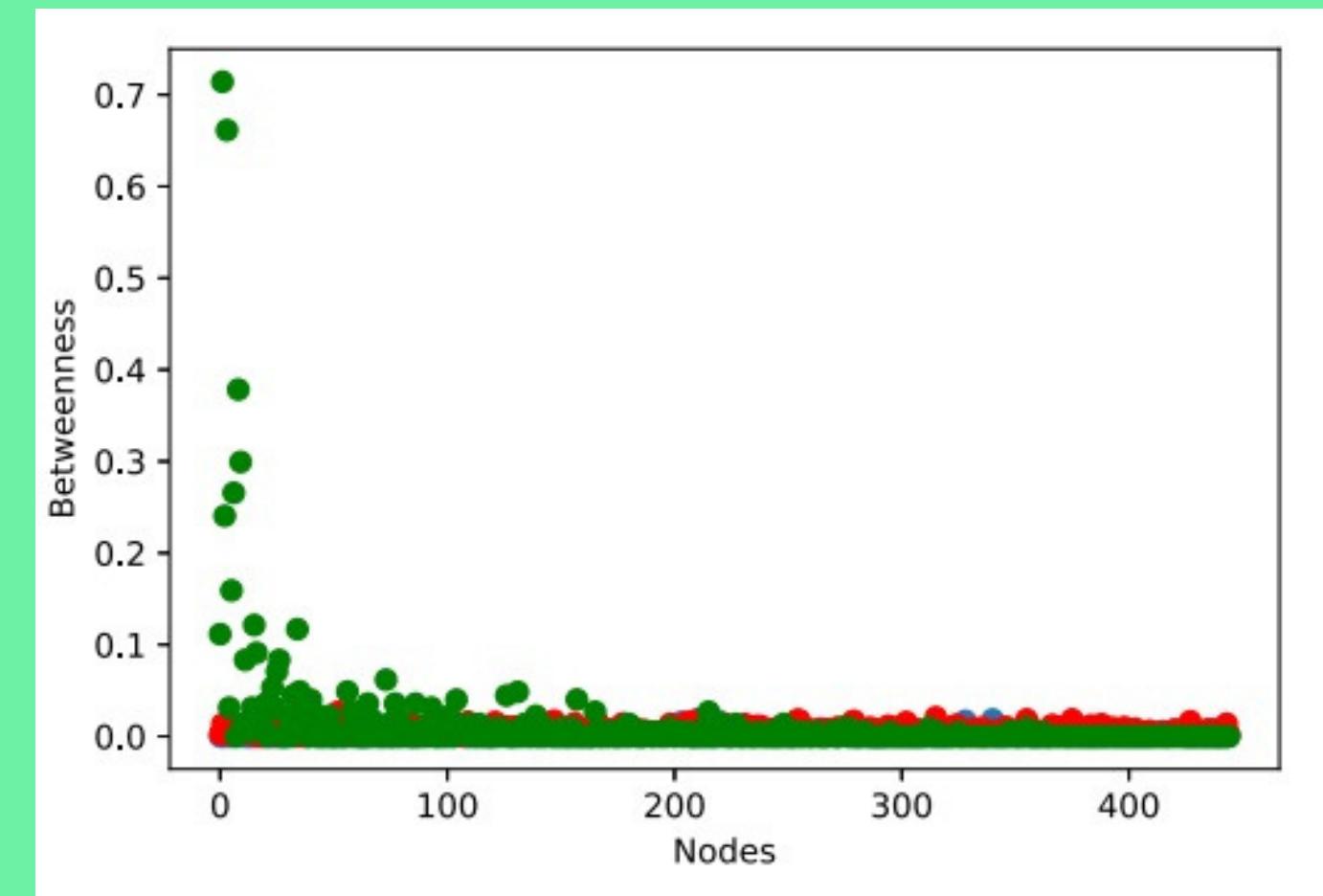
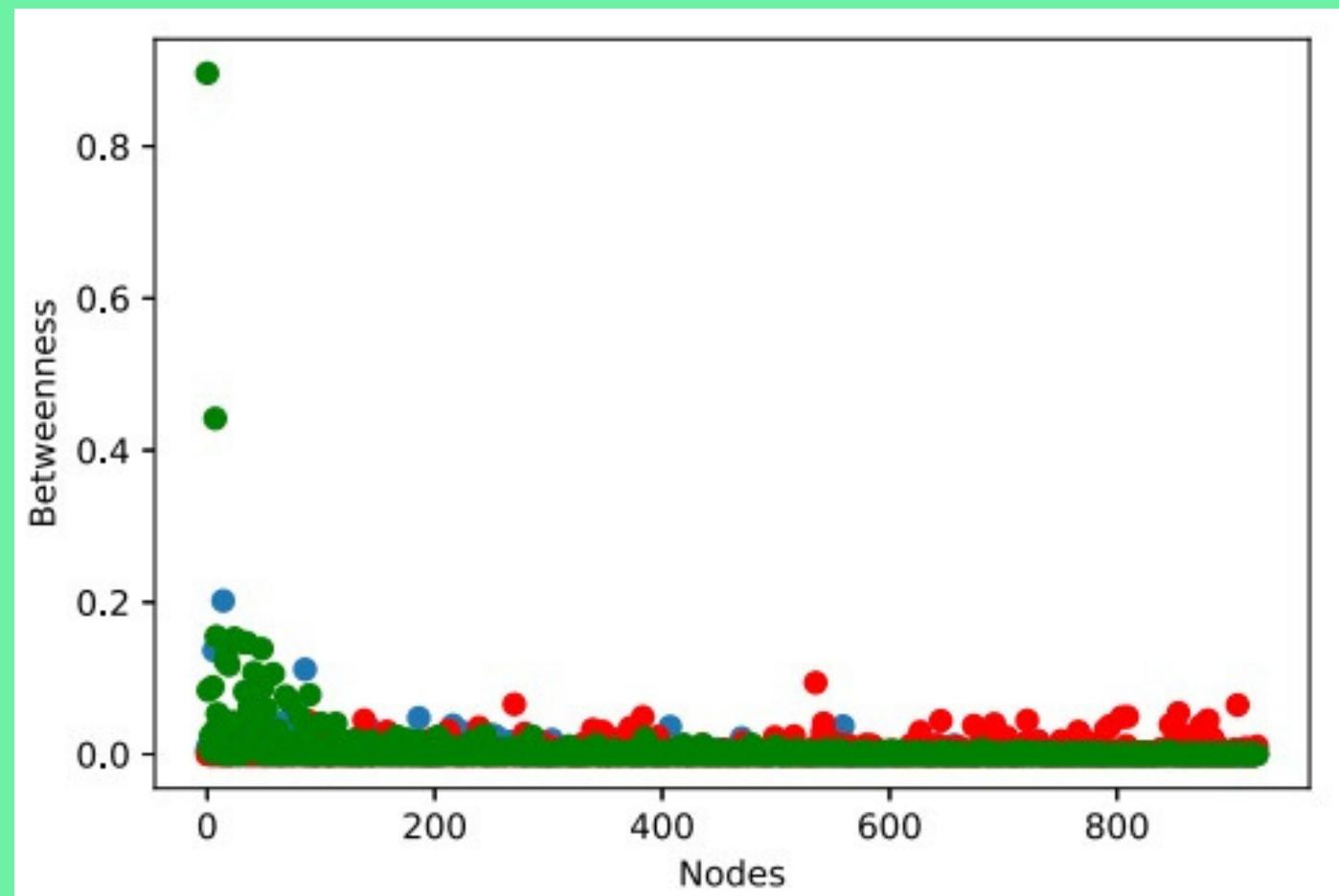


L. Node Betweenness

Graph: Blue
ER Graph: Red
BA Graph: Green

Large

Small

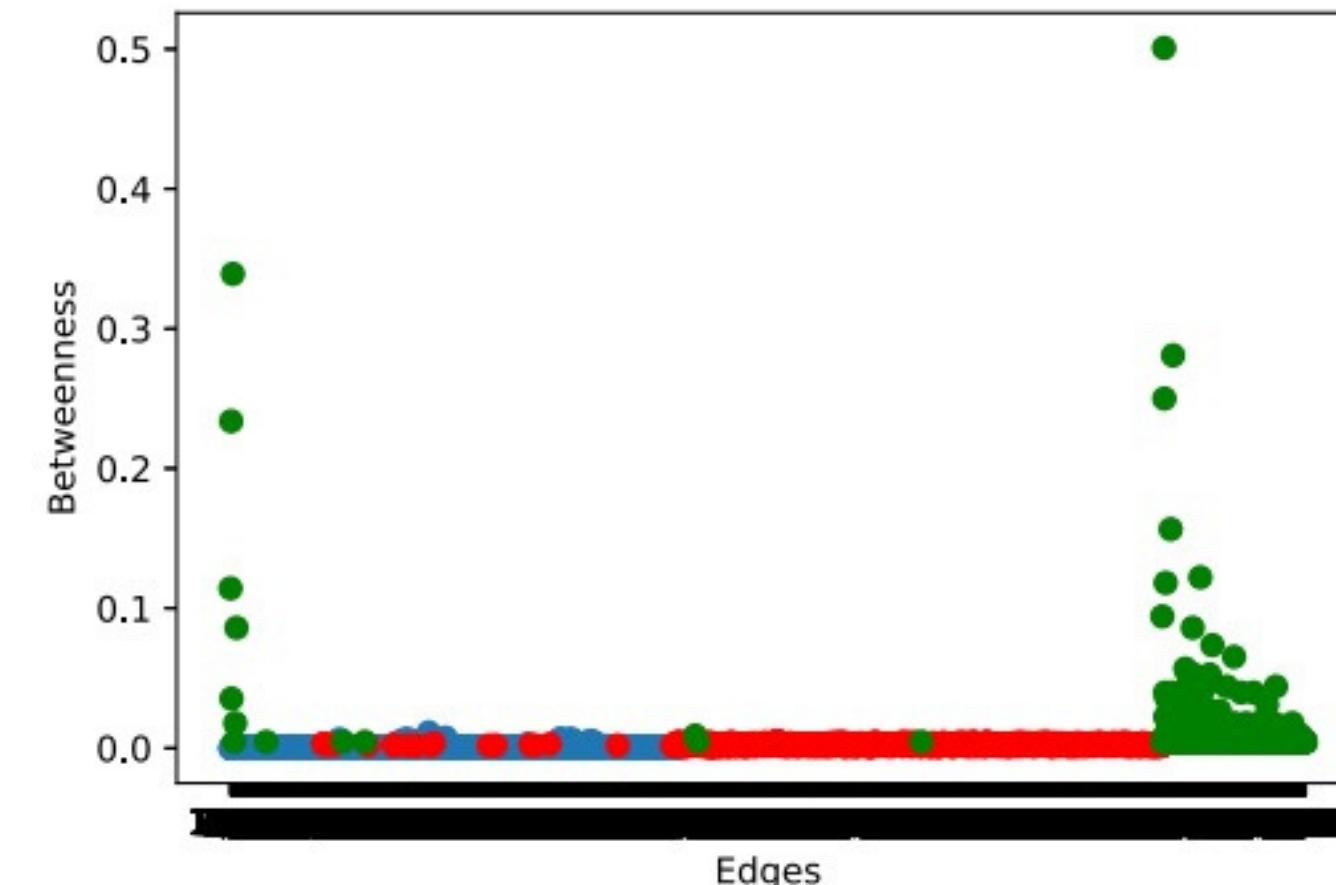
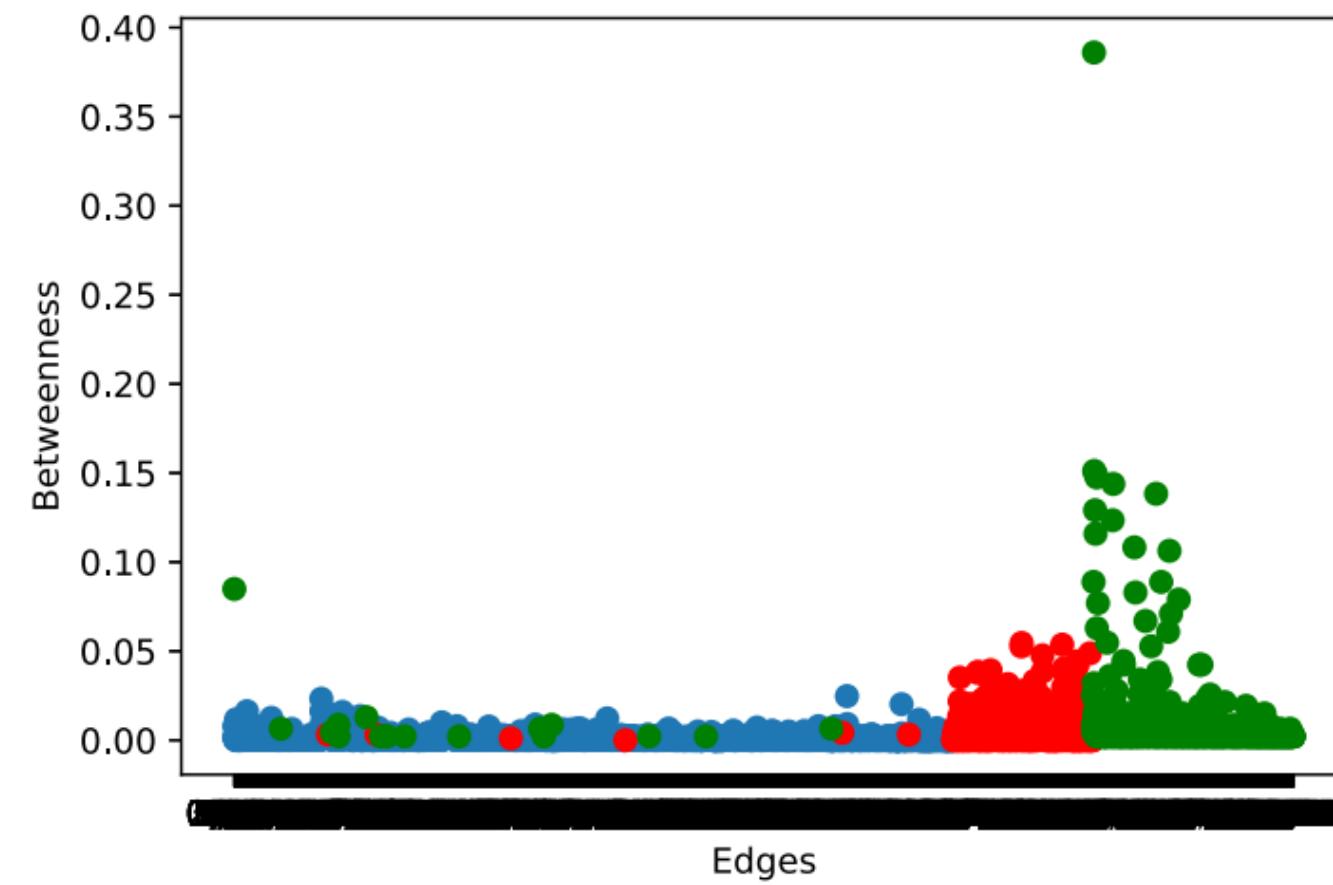


M. Edge Betweenness

Graph: Blue
ER Graph: Red
BA Graph: Green

Large

Small

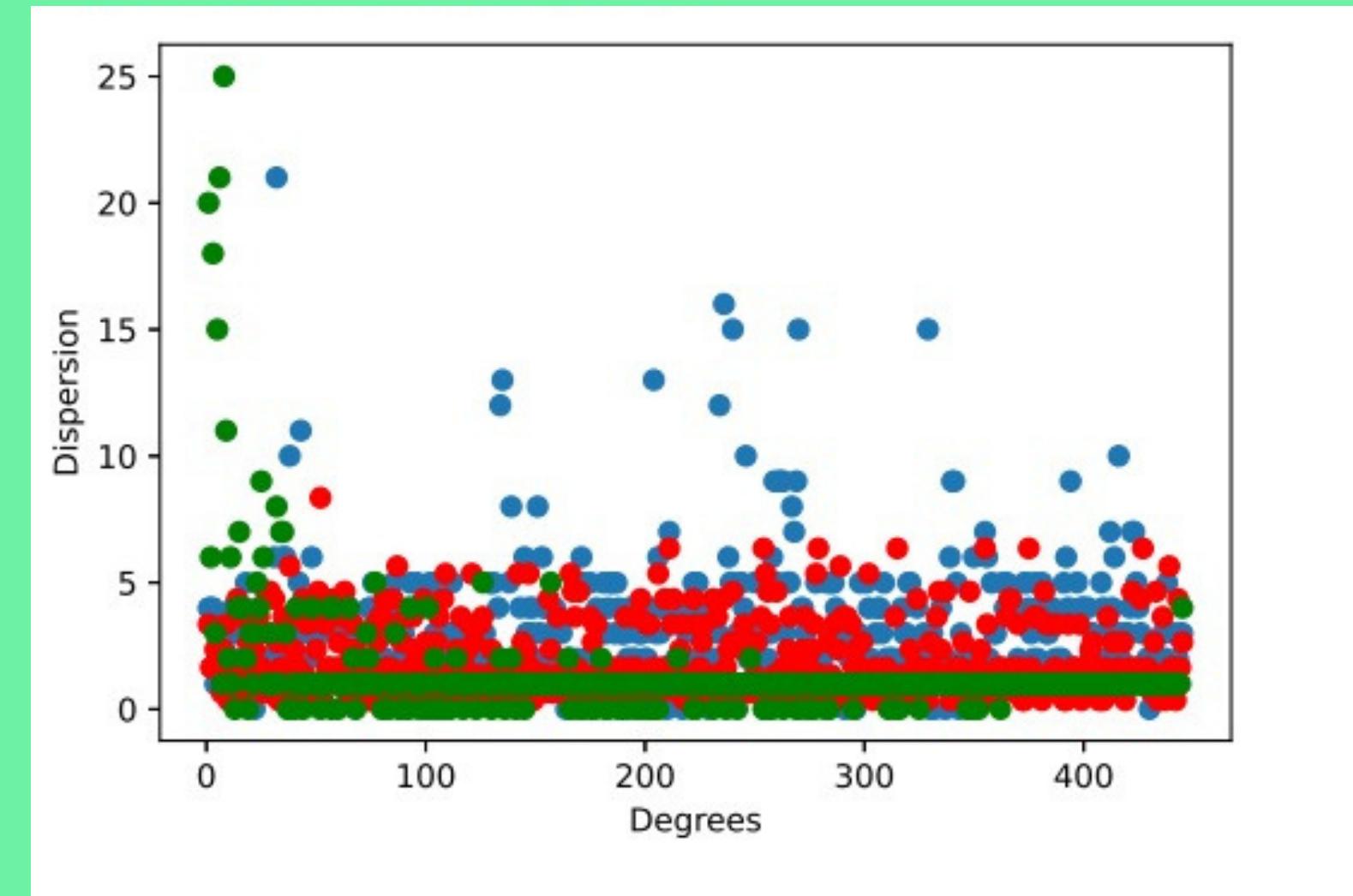
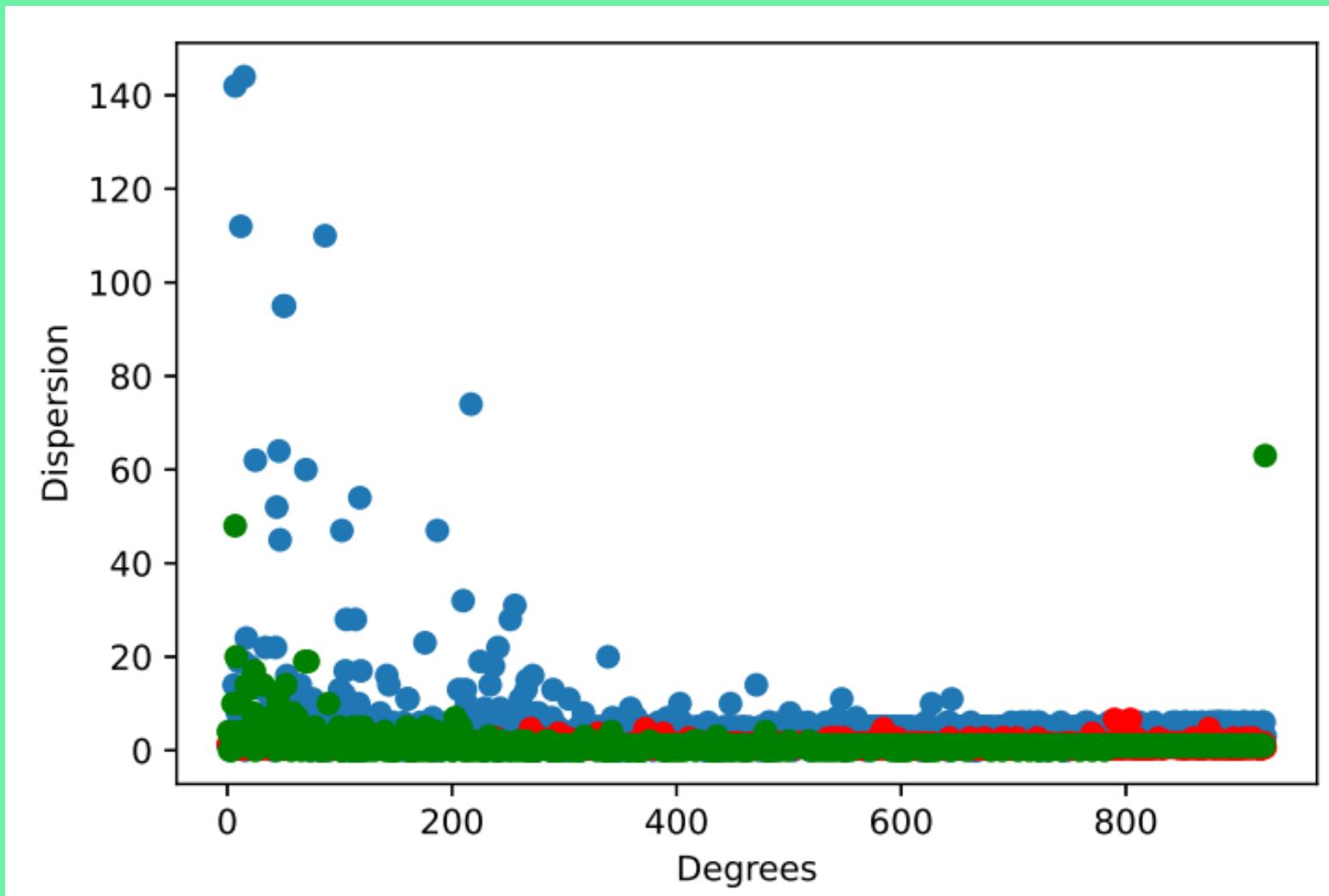


N. Dispersion

Graph: Blue
ER Graph: Red
BA Graph: Green

Large

Small

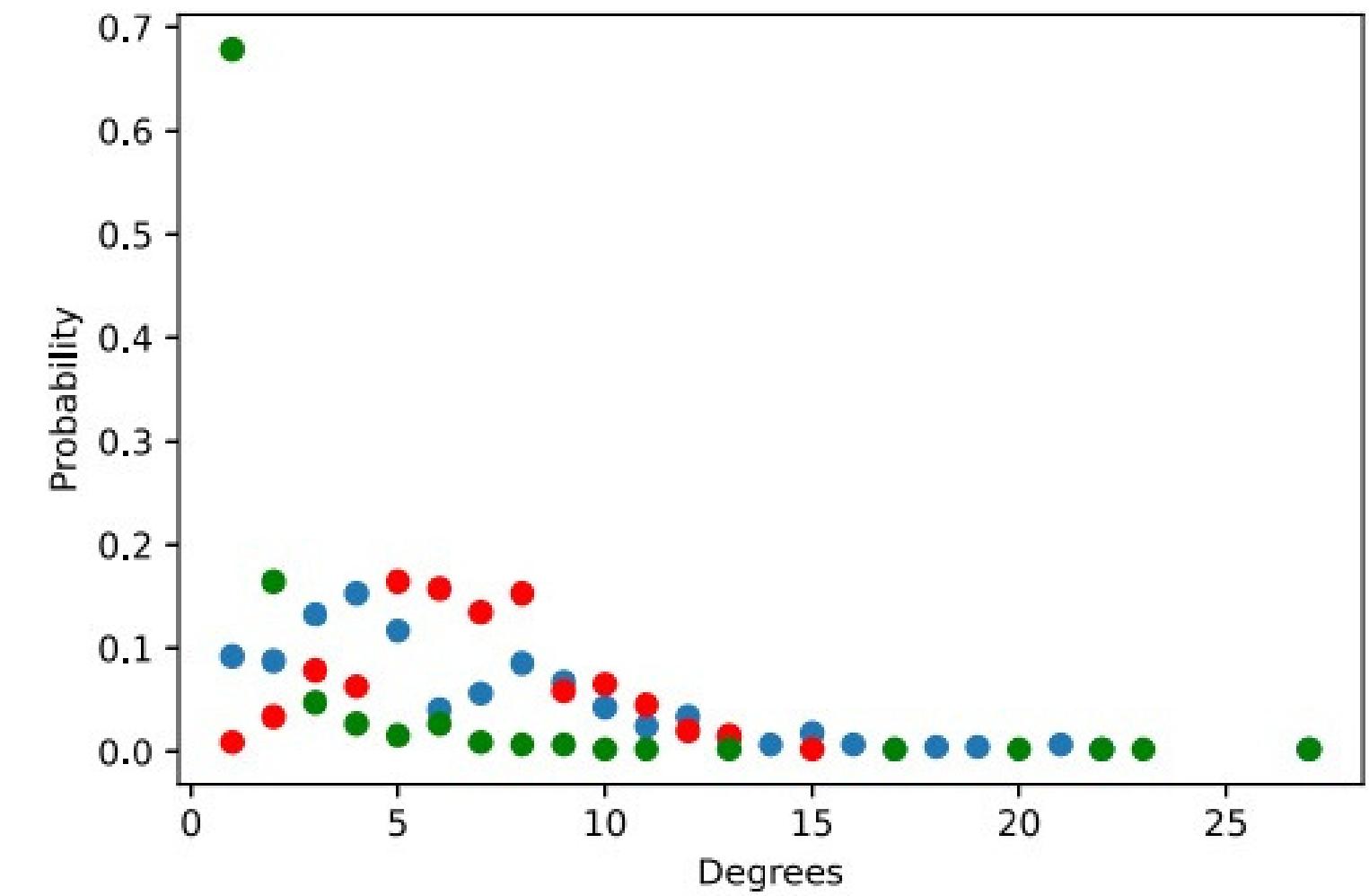
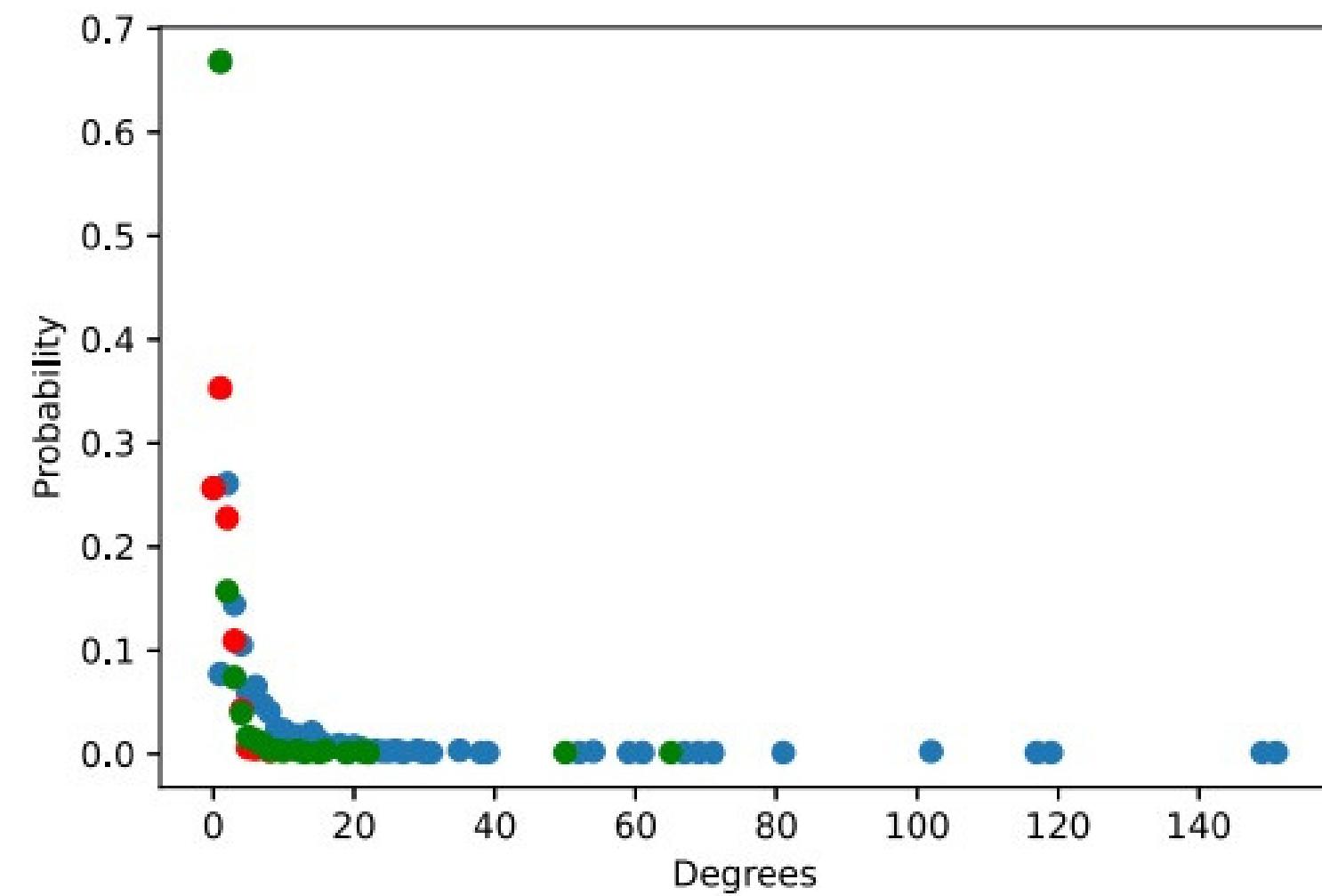


O. Degree

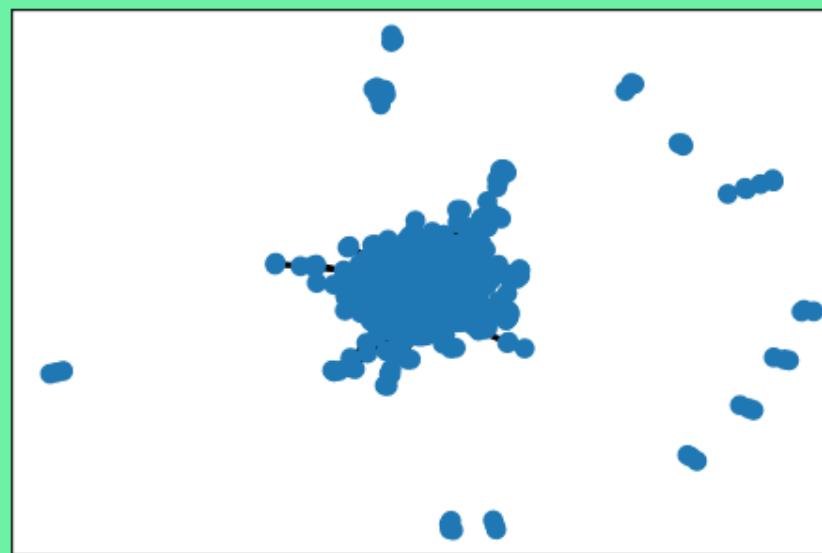
Graph: Blue
ER Graph: Red
BA Graph: Green

Large

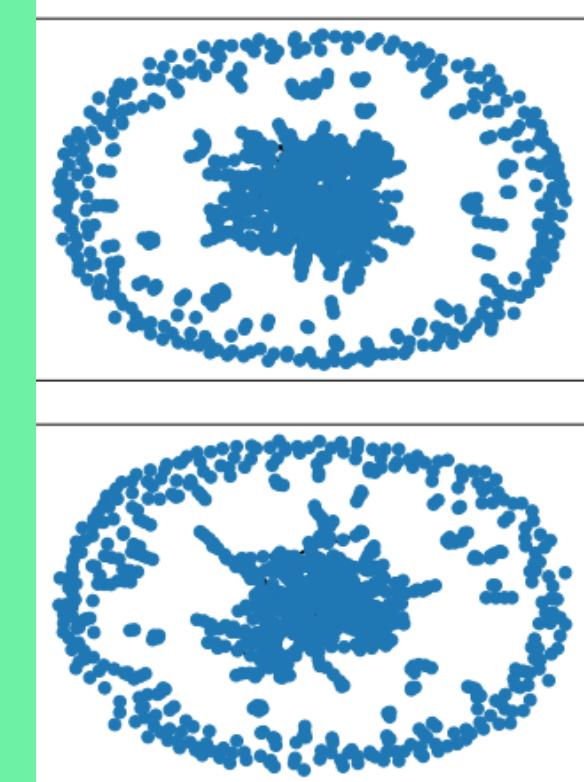
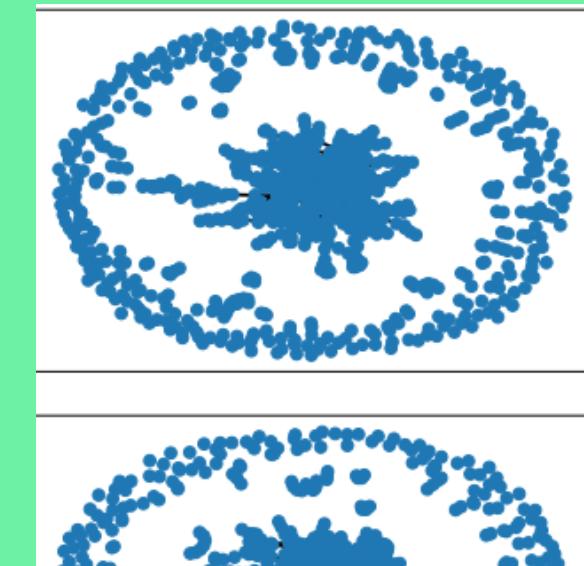
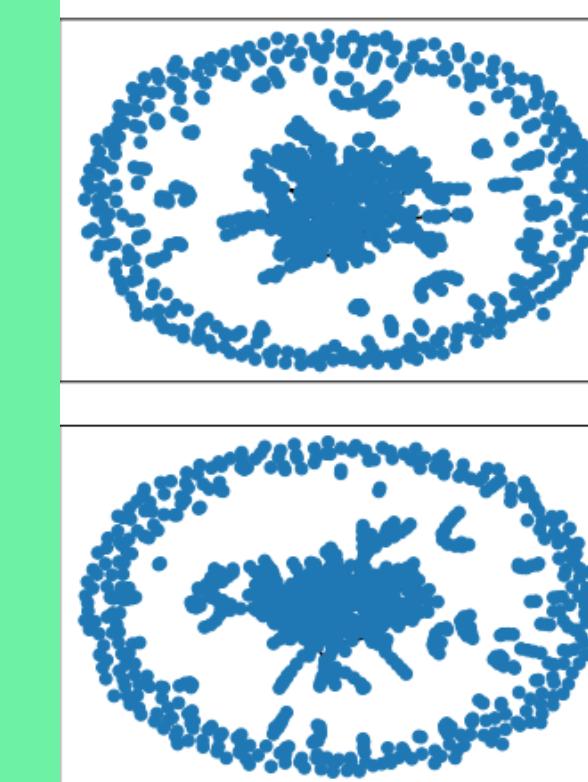
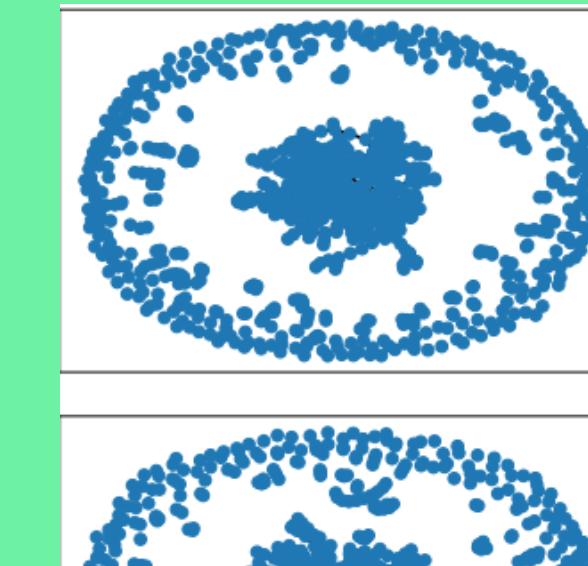
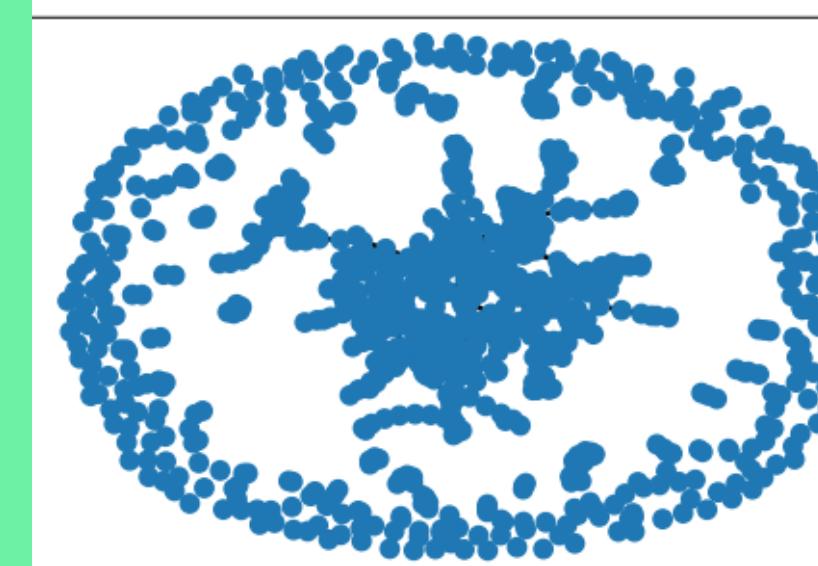
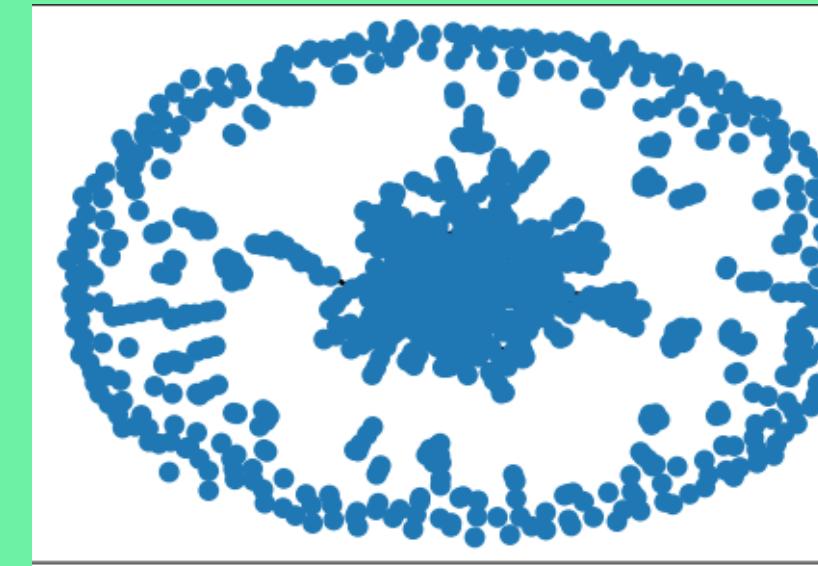
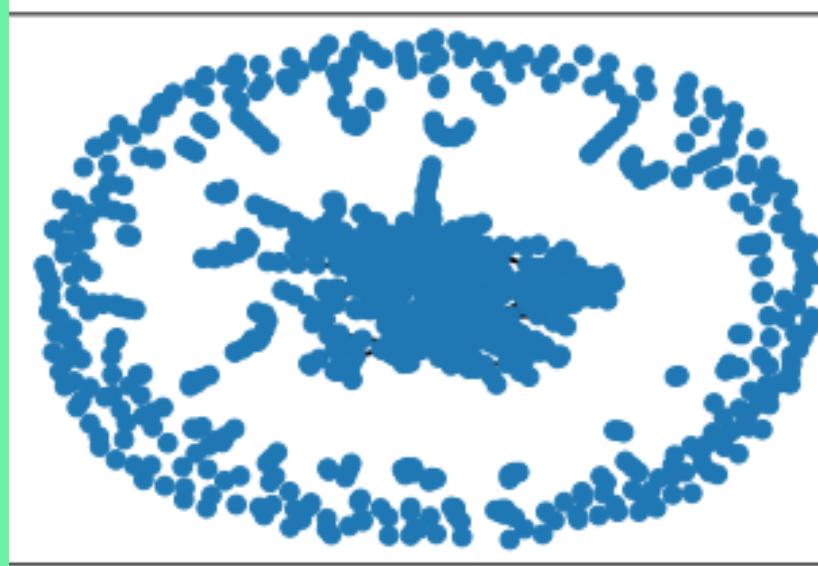
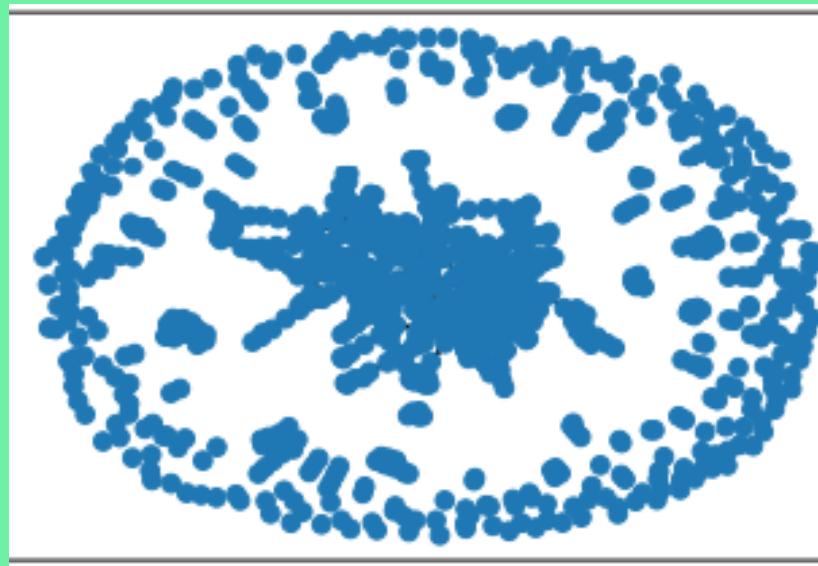
small



P. Graph Visualisation (Large)

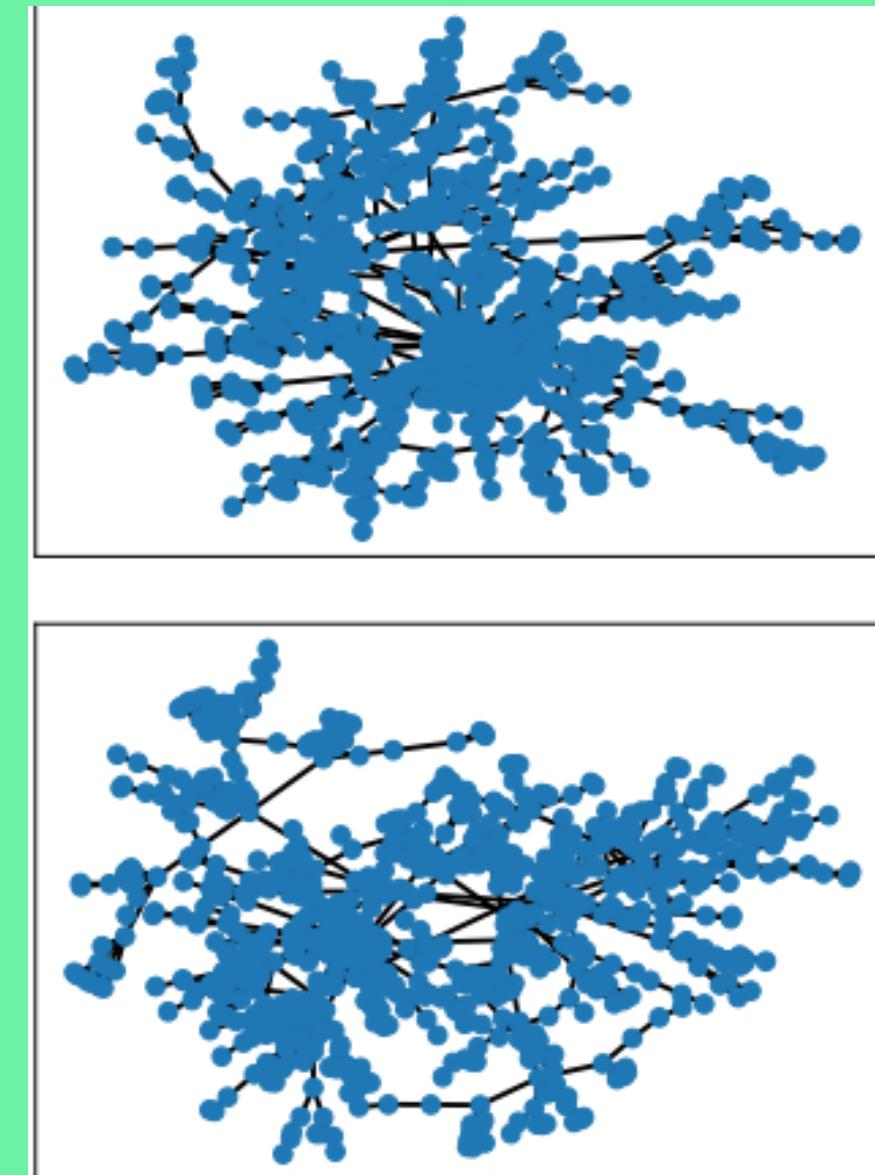
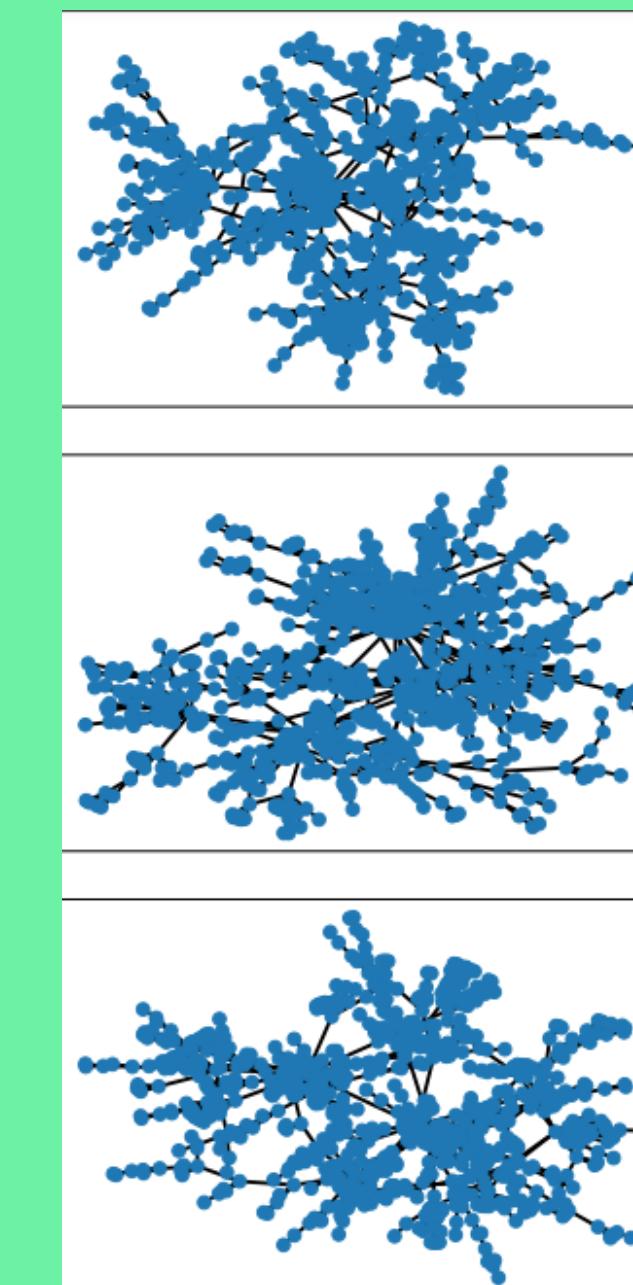
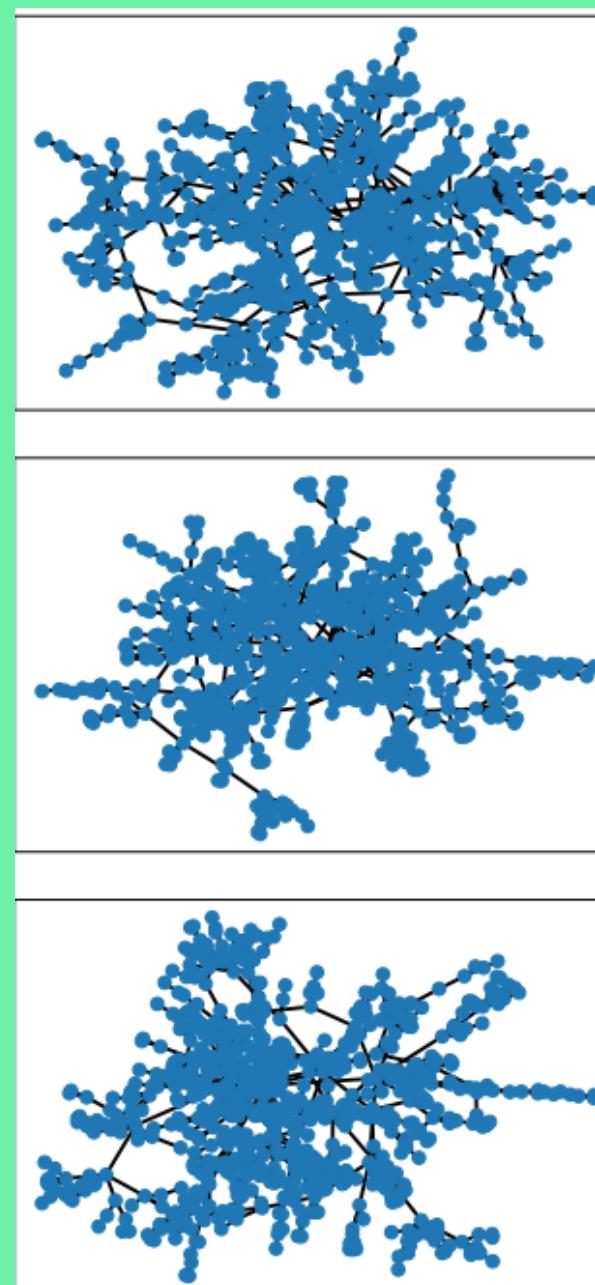
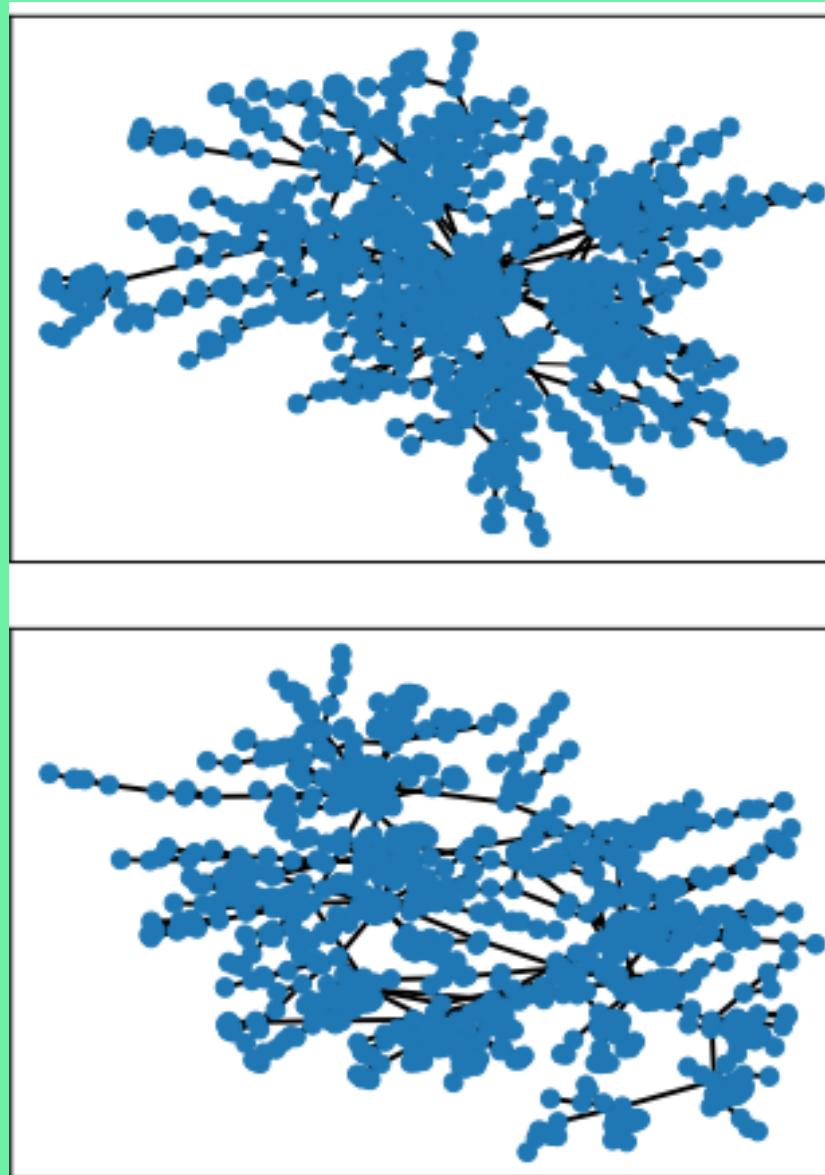


ER Graphs

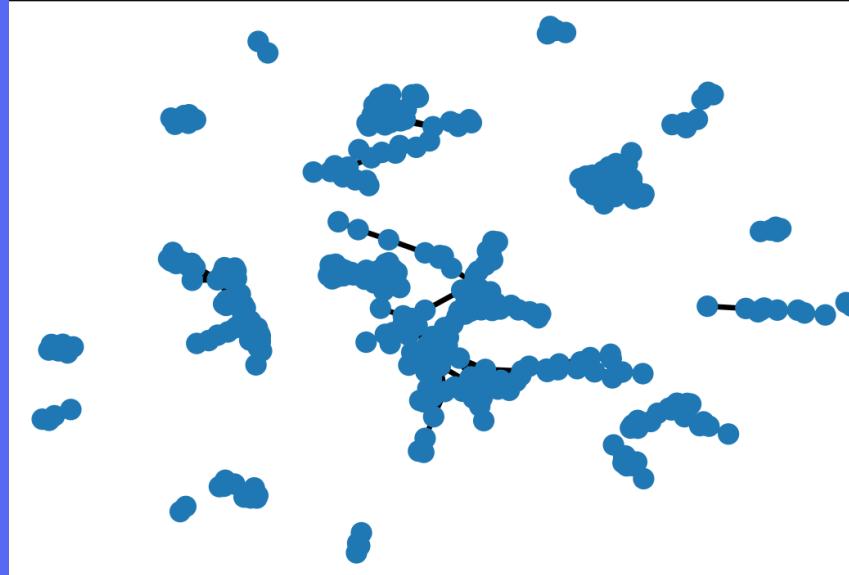


P. Graph Visualisation (continued)

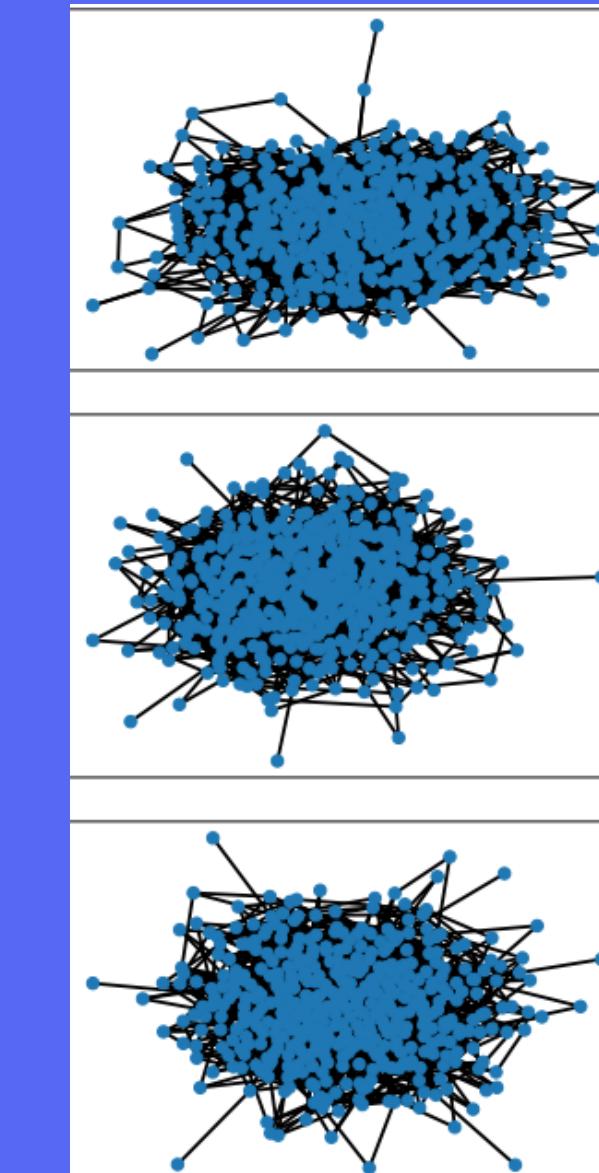
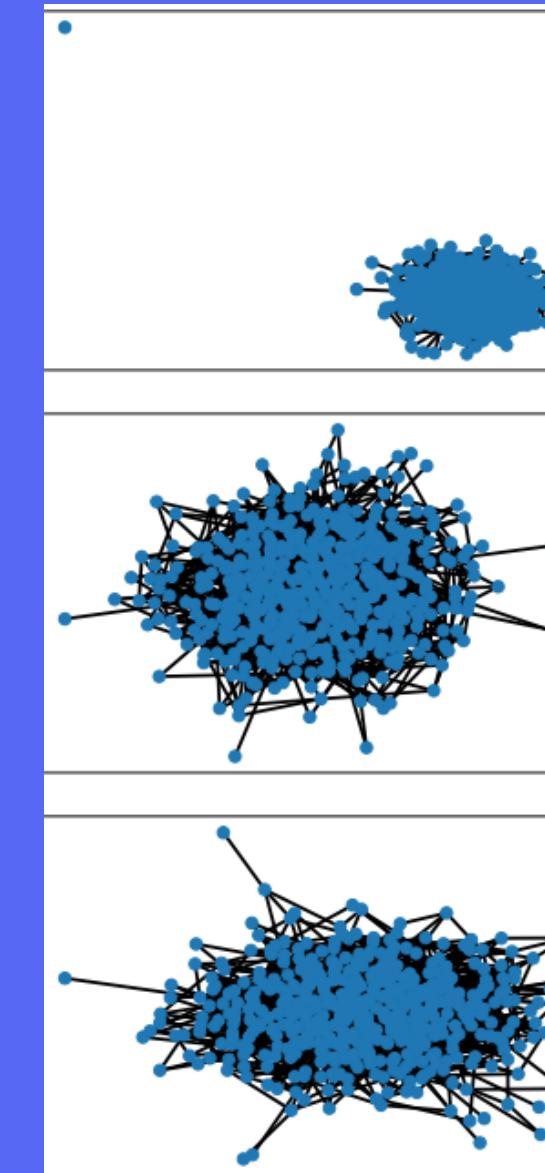
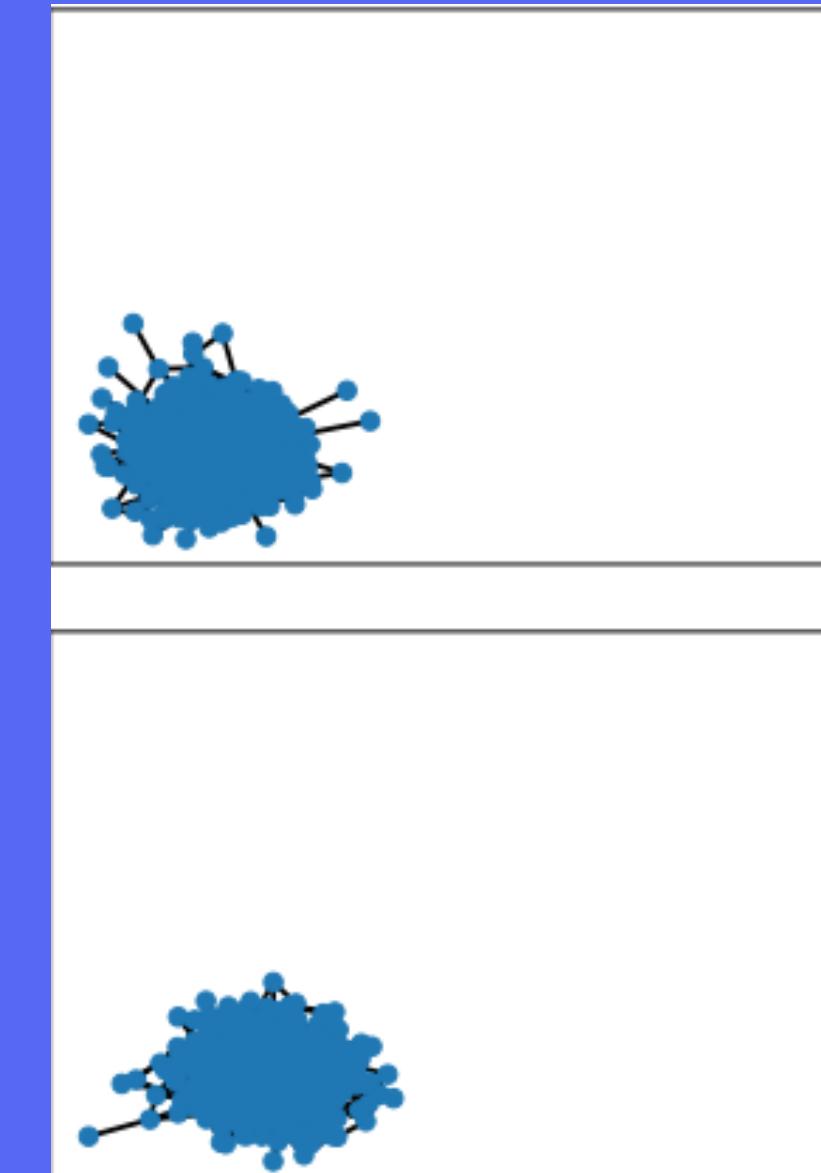
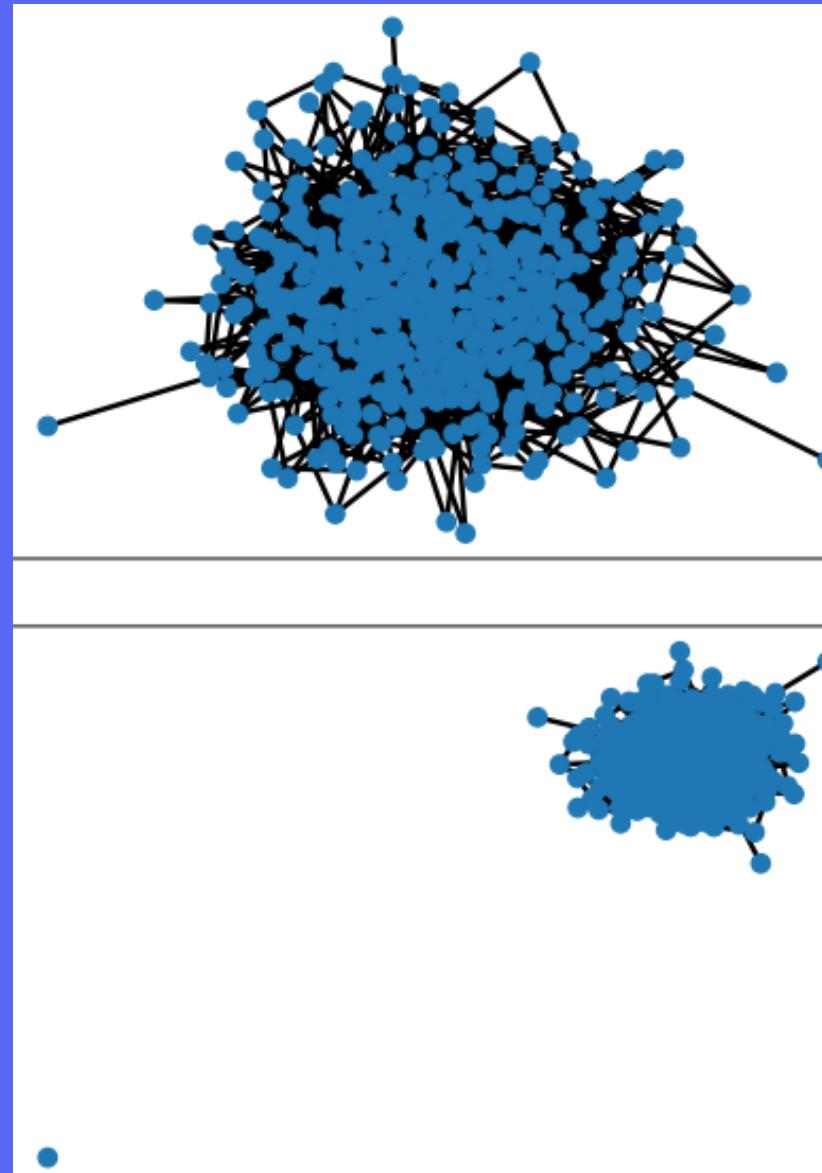
BA Graphs



P. Graph Visualisation (Small)



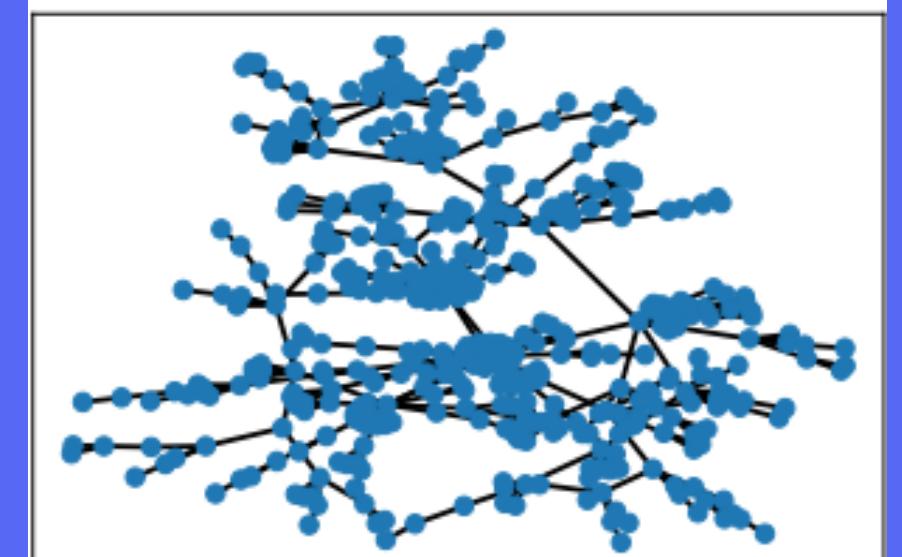
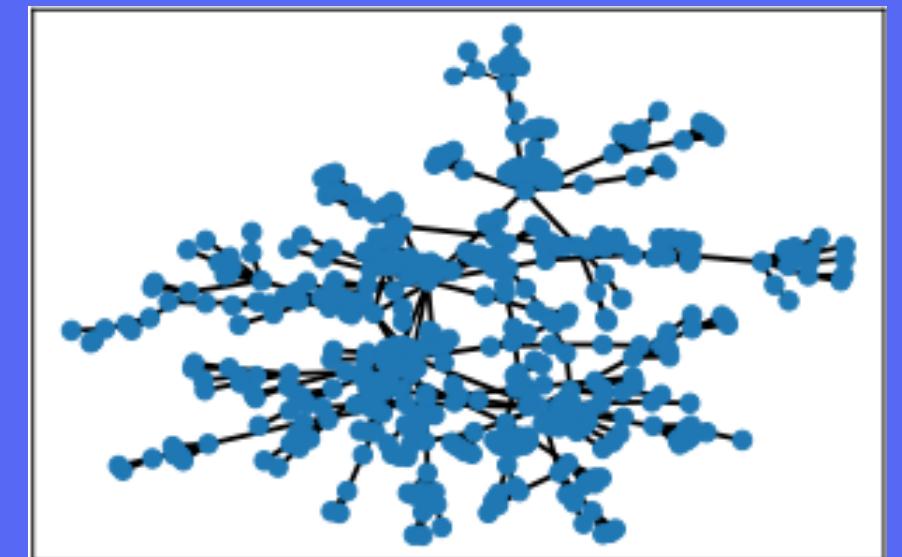
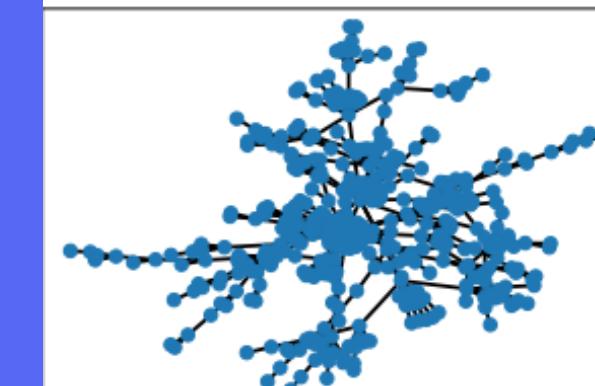
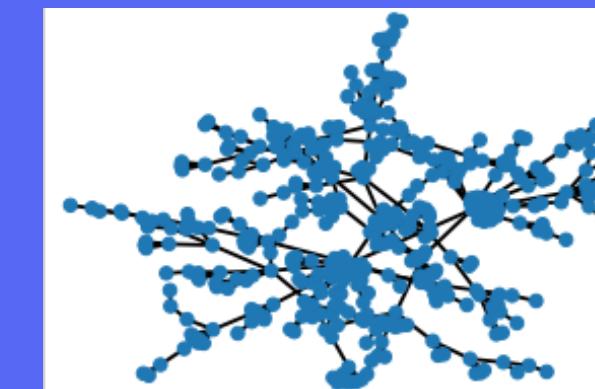
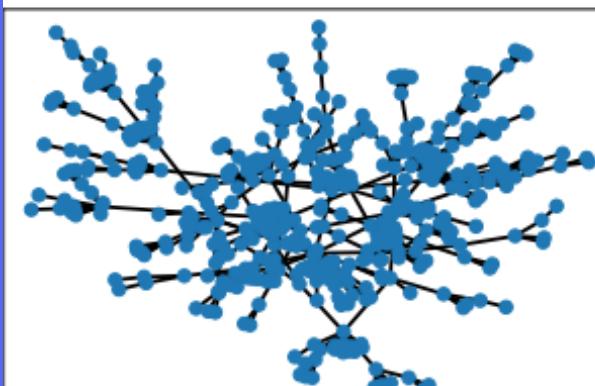
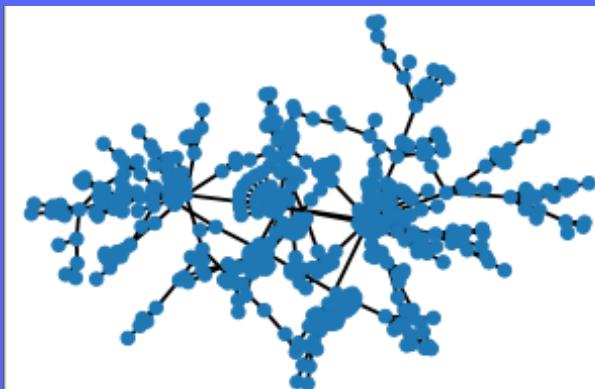
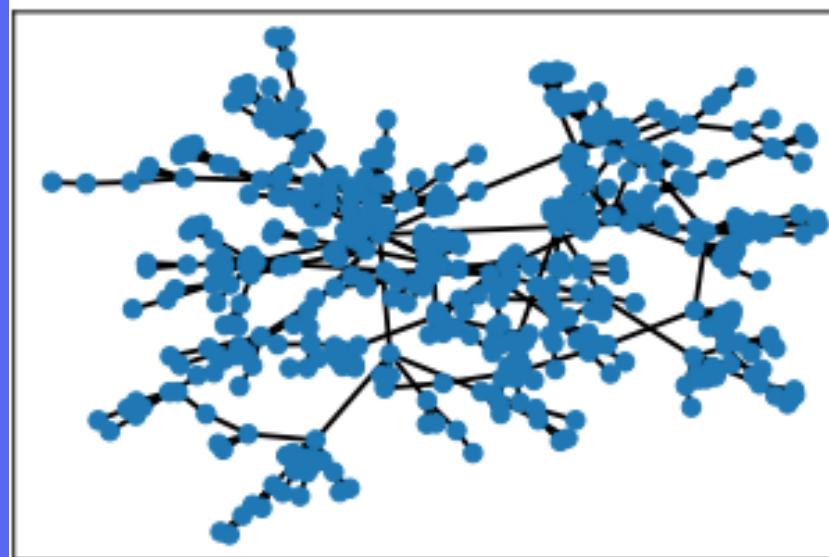
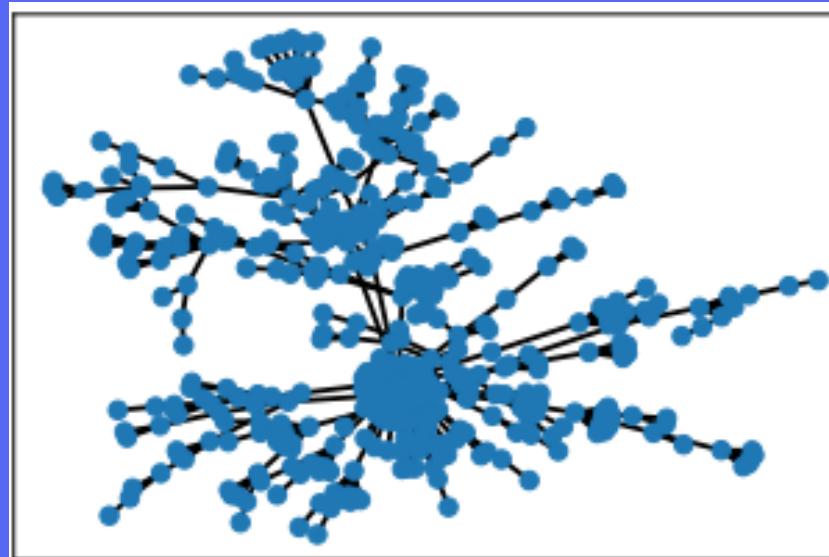
ER Graphs



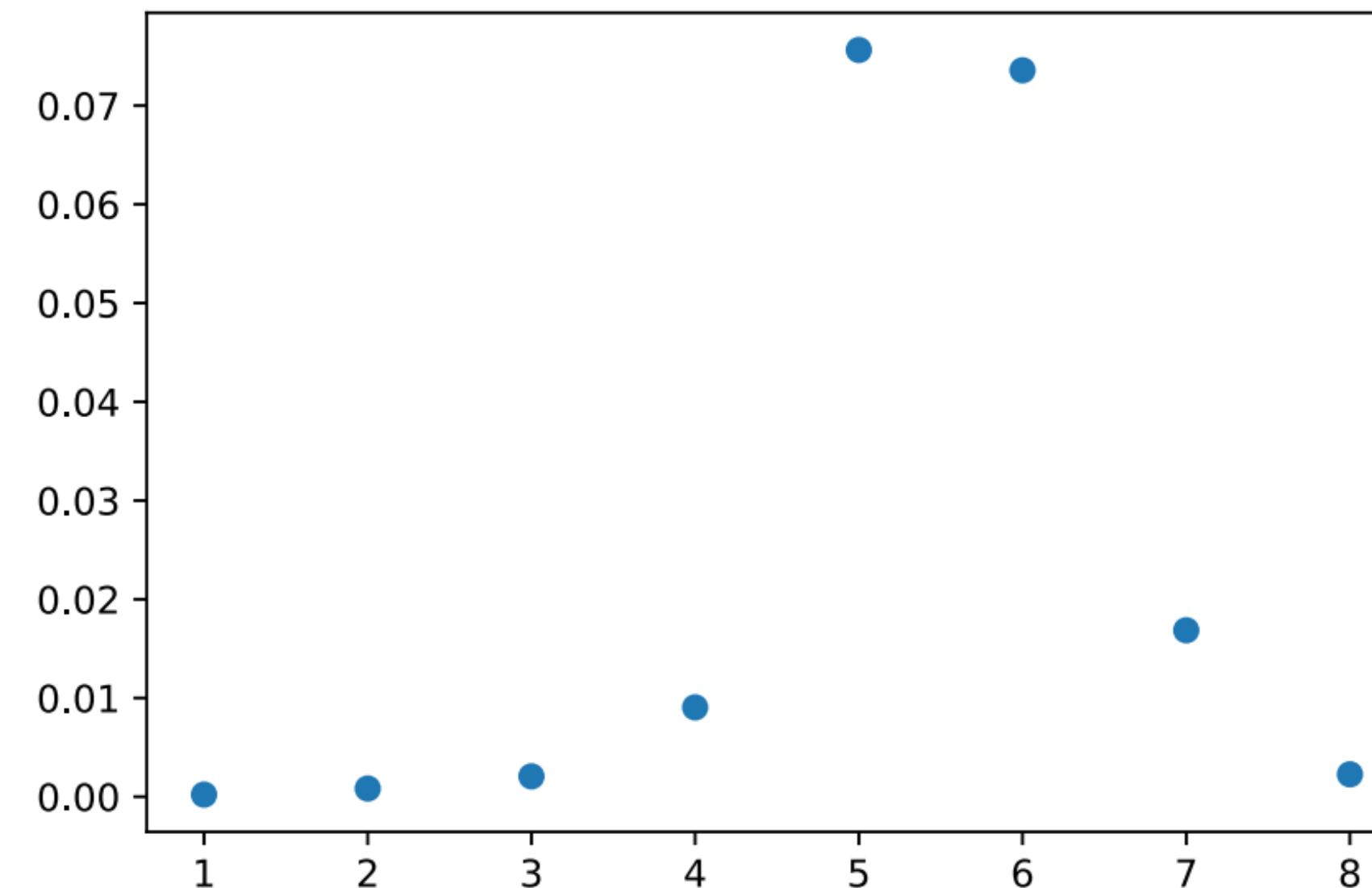
P. Graph Visualisation (continued)

2020

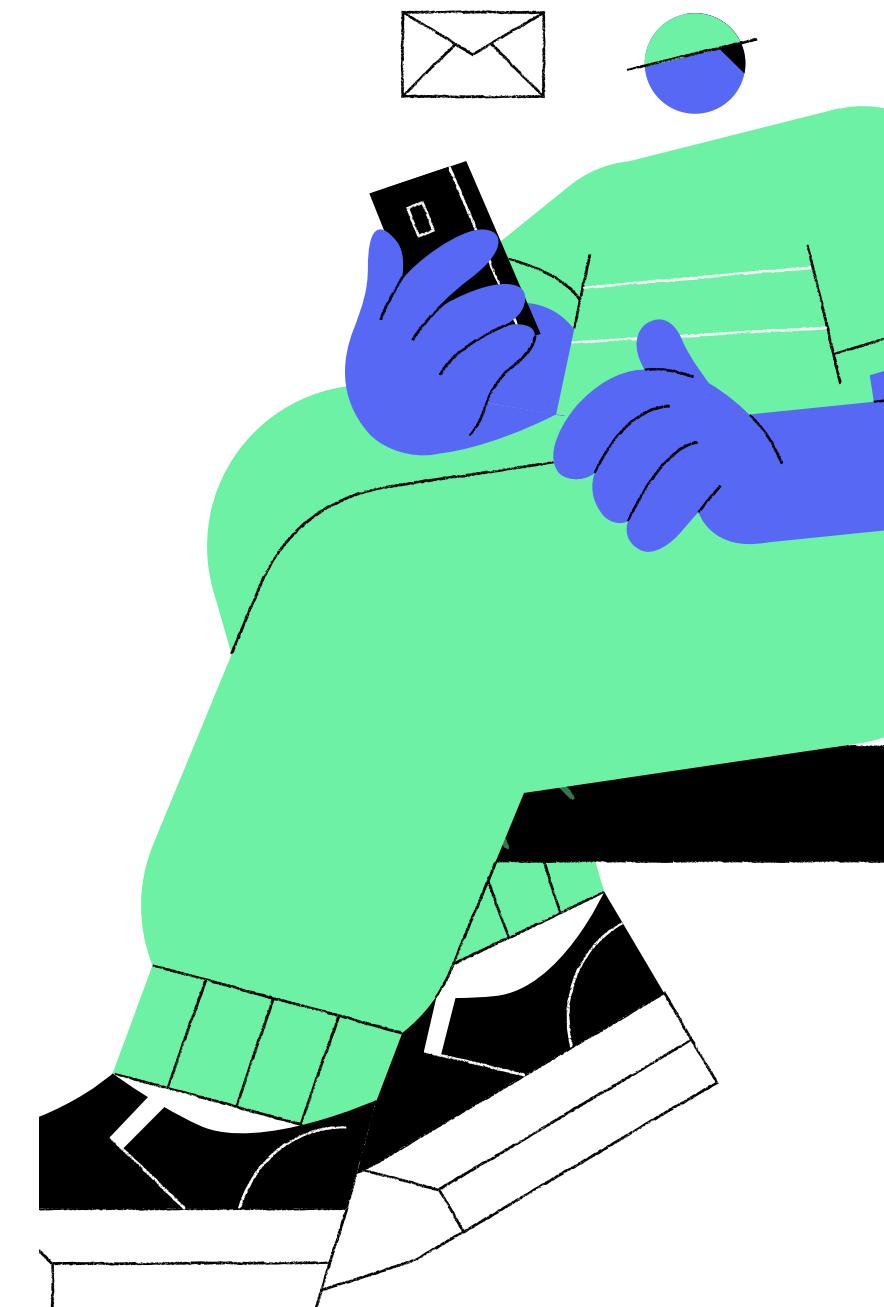
BA Graphs



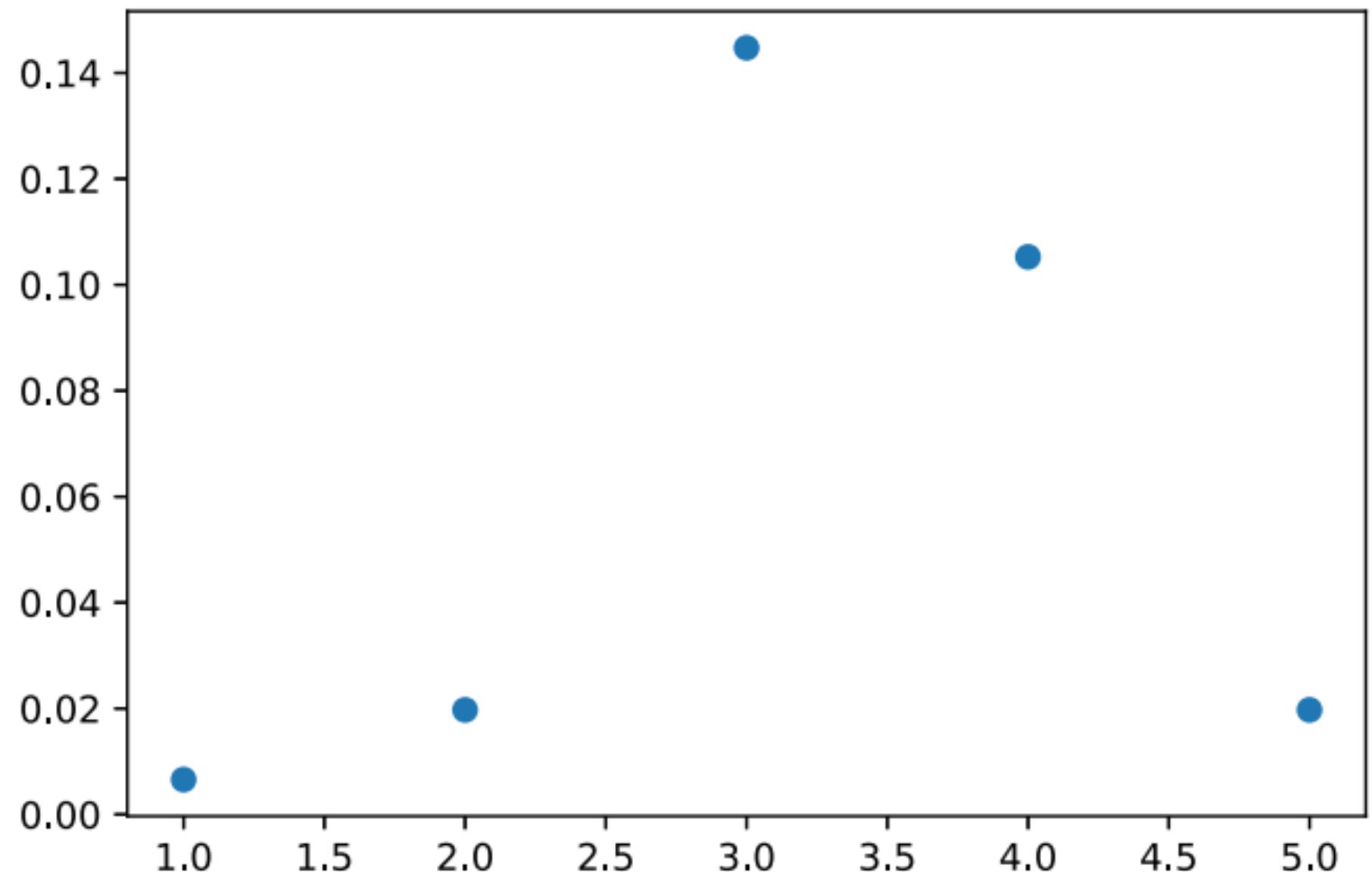
Q. Probability Distribution (large)



1: 0.00020554984583761563, 2: 0.0008221993833504625,
3: 0.0020554984583761563, 4: 0.009044193216855087,
5: 0.07564234326824255, 6: 0.0735868448098664,
7: 0.016855087358684483, 8: 0.0022610483042137717



Q. Probability Distribution (Small)



1: 0.006578947368421052, 2: 0.019736842105263157,
3: 0.14473684210526316, 4: 0.10526315789473684,
5: 0.019736842105263157



R. Spectral Radius

Large:

- Graph : **152.14999**
- ER Graph : **8.03604**
- BA Graph : **67.78953**

Small:

- Graph: **28.02196**
- ER Graph : **17.33953**
- BA Graph : **38.85898**

S. Assortativity

Large:

- Graph : **-0.17933**
- ER Graph : **-0.00368**
- BA Graph : **-0.13491**

Small:

- Graph: **0.20000**
- ER Graph : **0.00378**
- BA Graph : **-0.17792**

Thank You

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