



# My Social Network Analysis

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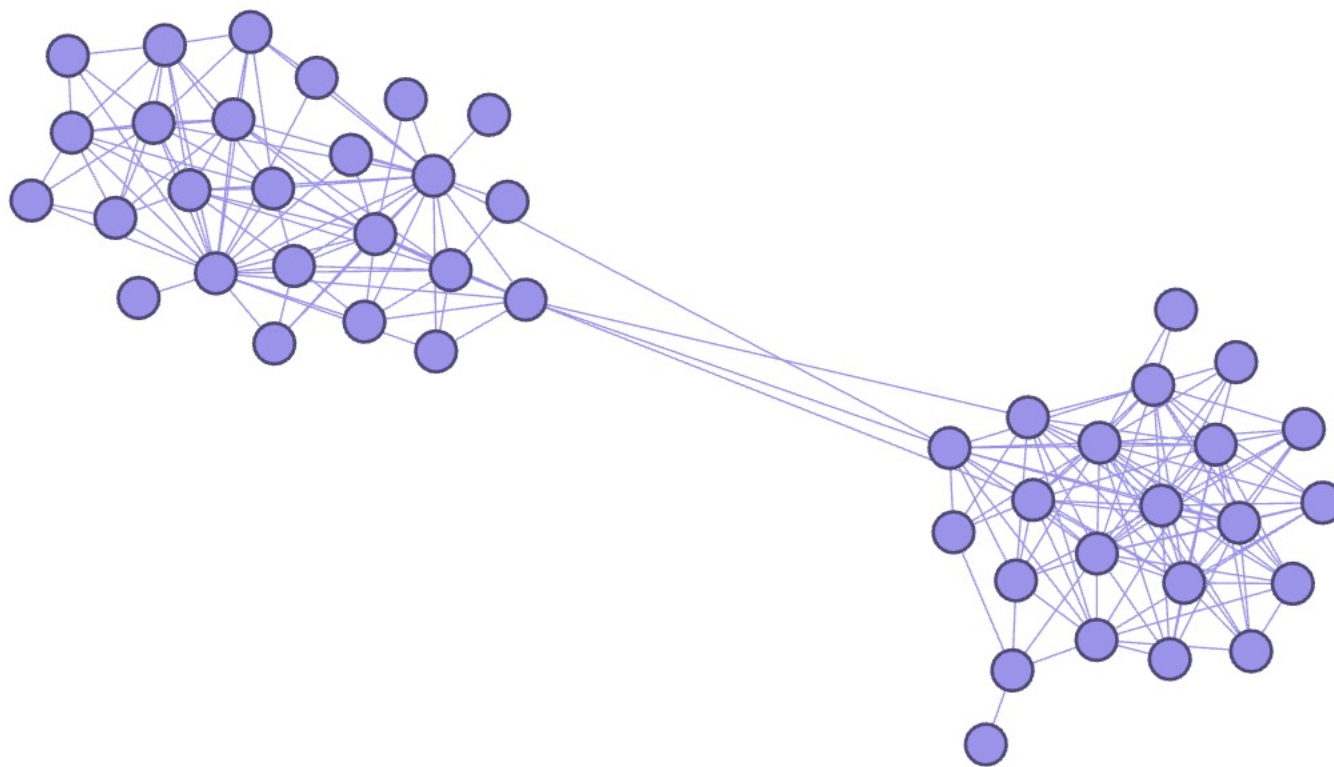




# Parsing and preprocessing

- Used network: V Kontakte
- Parsing instruments: requests lib + VK API
- Preprocessing
- Friends with open or/and complete profile parameters: 27
- Initial size and order: 52 and 207
- Number of connected component: 3
- Only giant component was used for analysis

# Ego-network



# Network statistics

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Size: 204

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Order: 47

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Diameter: 6

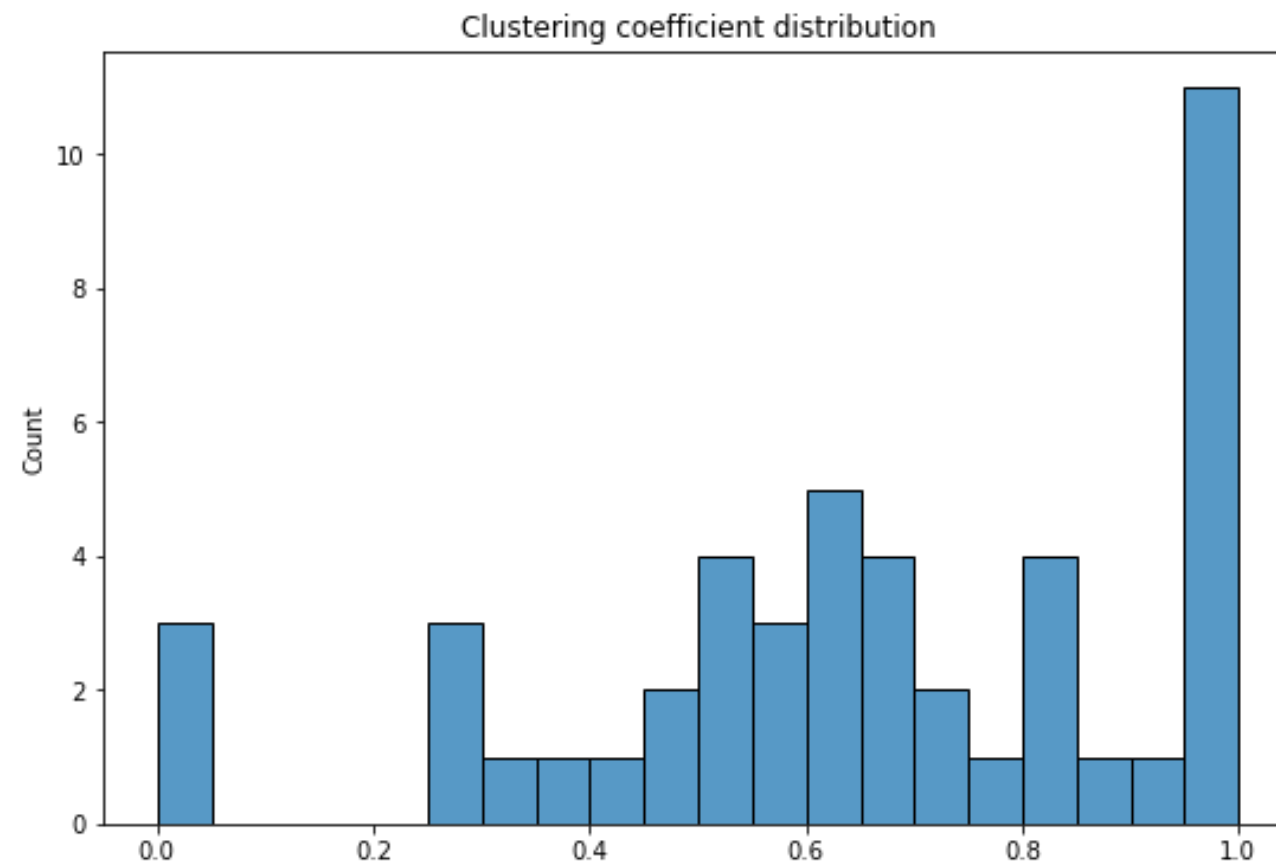
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Radius: 3

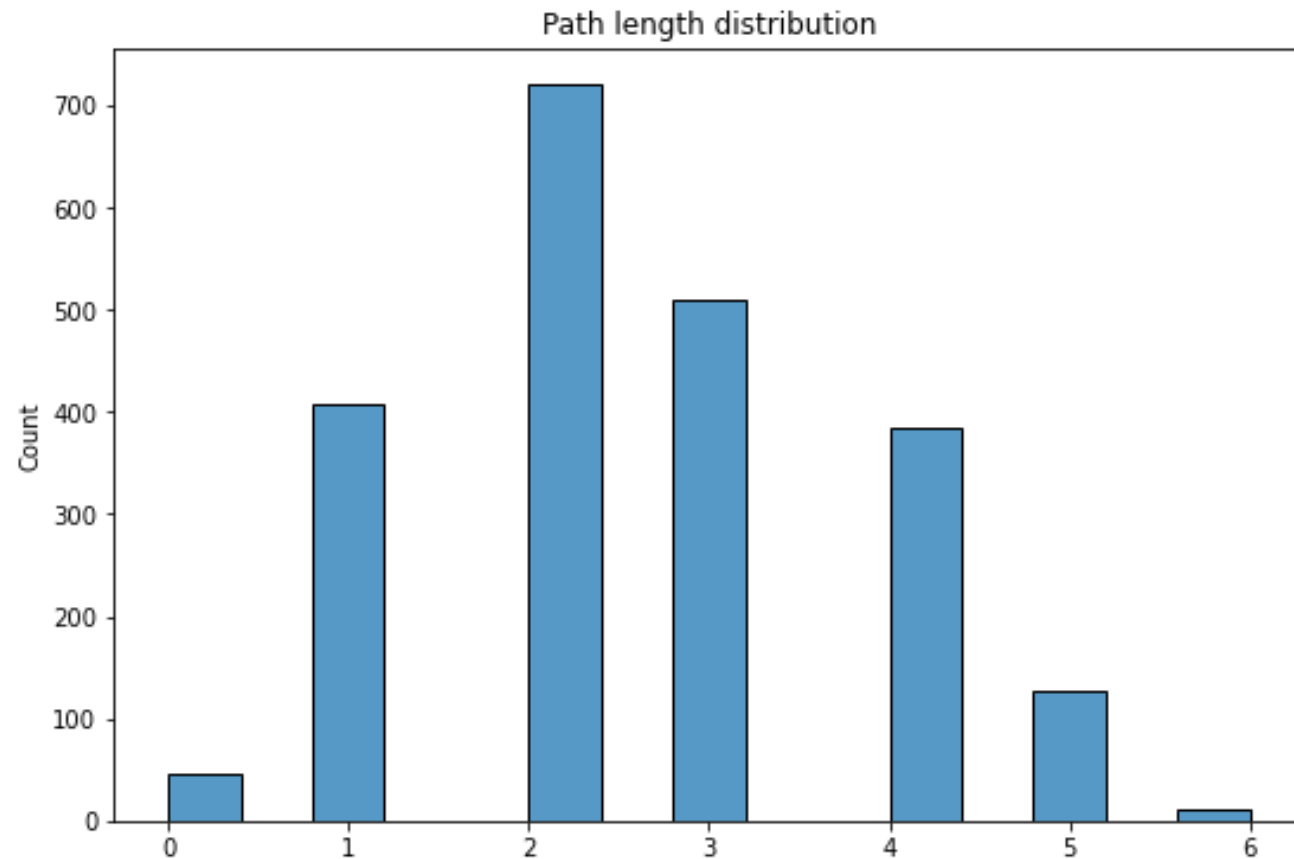
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Average local clustering coefficient: 0.657

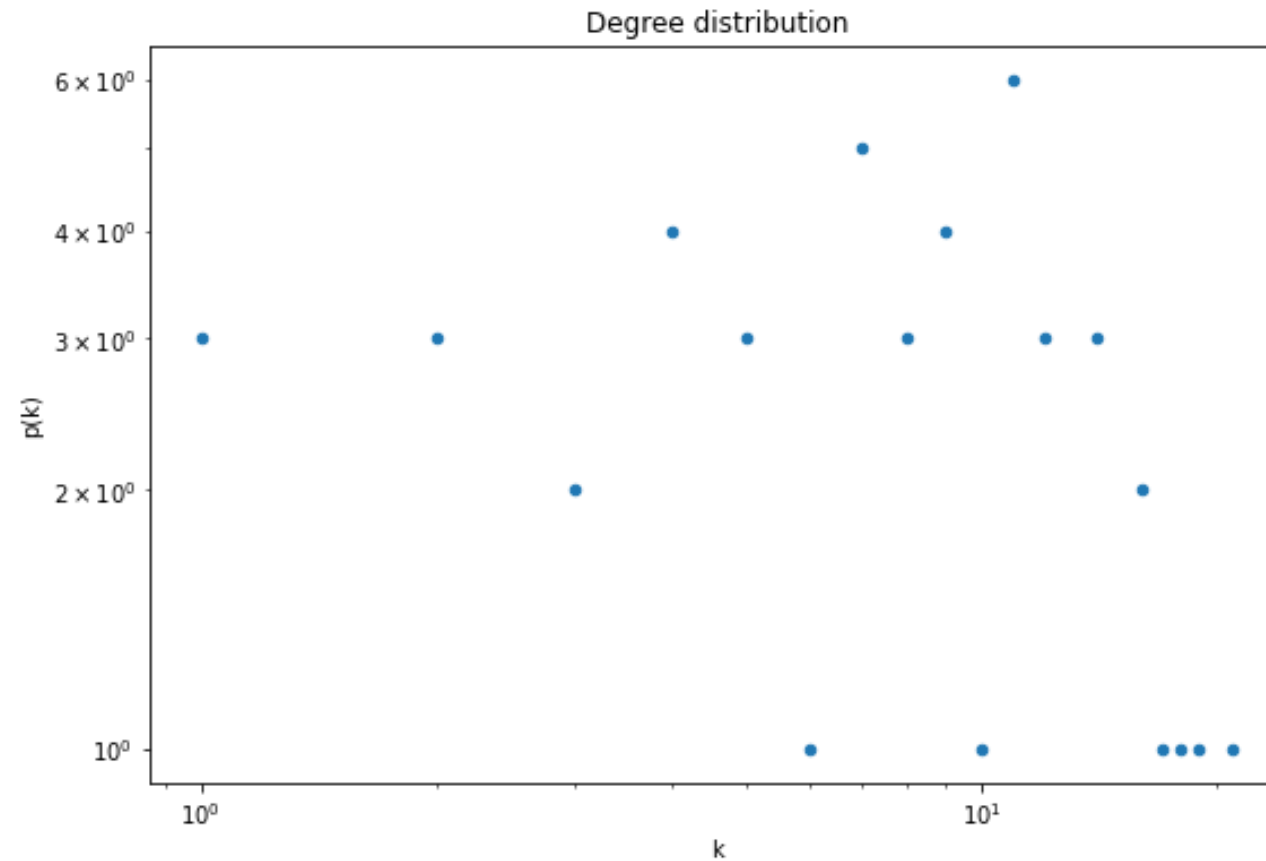
# Clustering histogram



Average path length: 2.6022



Average degree : 8.68



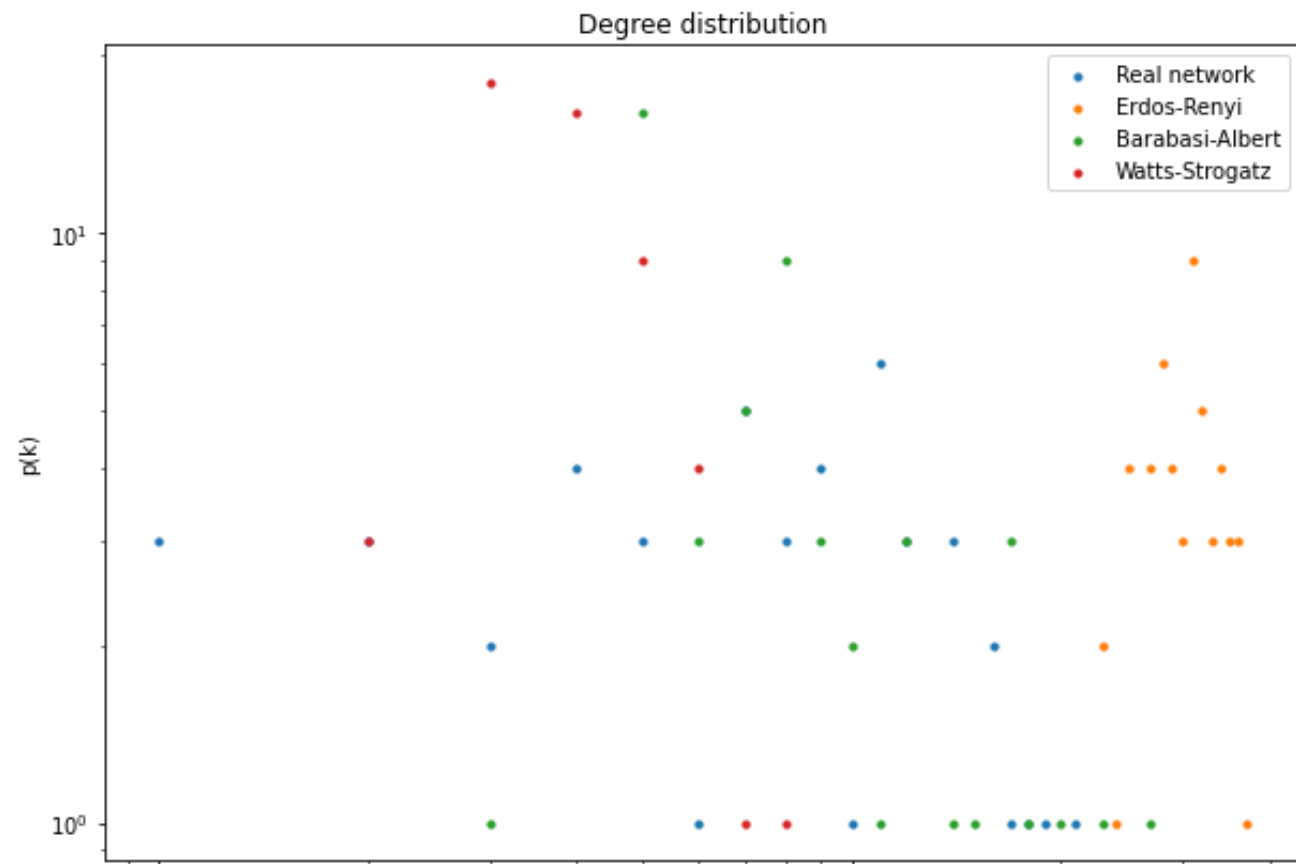
# Structural Analysis

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| Model                        | Original | Erdos-Renyi | Barabasi-Albert | Watts-Strogatz |
|------------------------------|----------|-------------|-----------------|----------------|
| Clustering coefficient       | 0.6566   | 0.5932      | 0.3214          | 0.0686         |
| Average shortest path length | 2.6022   | 1.4057      | 1.9585          | 2.8974         |



# Degree comparison



# Centrality measures

## Closeness

|   | id        | centrality |
|---|-----------|------------|
| 0 | 112949977 | 0.554217   |
| 1 | 121383187 | 0.528736   |
| 2 | 201041908 | 0.511111   |
| 3 | 68373415  | 0.494624   |
| 4 | 114314651 | 0.484211   |
| 5 | 135515945 | 0.464646   |
| 6 | 107936423 | 0.460000   |
| 7 | 43046350  | 0.446602   |
| 8 | 182702156 | 0.446602   |
| 9 | 157721225 | 0.438095   |

## Betweenness

|   | id        | centrality |
|---|-----------|------------|
| 0 | 112949977 | 0.322938   |
| 1 | 121383187 | 0.303545   |
| 2 | 107936423 | 0.171206   |
| 3 | 201041908 | 0.122762   |
| 4 | 68373415  | 0.113630   |
| 5 | 114314651 | 0.110081   |
| 6 | 182702156 | 0.061492   |
| 7 | 43046350  | 0.055632   |
| 8 | 135515945 | 0.054661   |
| 9 | 43320962  | 0.044106   |

## Degree

|   | id        | centrality |
|---|-----------|------------|
| 0 | 107936423 | 0.456522   |
| 1 | 112949977 | 0.413043   |
| 2 | 182702156 | 0.391304   |
| 3 | 43046350  | 0.369565   |
| 4 | 157721225 | 0.347826   |
| 5 | 29541095  | 0.347826   |
| 6 | 149472029 | 0.304348   |
| 7 | 172544725 | 0.304348   |
| 8 | 66761901  | 0.304348   |
| 9 | 121383187 | 0.260870   |

# Top nodes

- ID 112949977 is first in Closeness and Betweenness centralities measures
- His attributes dict:
- {'first\_name': 'Егор', 'last\_name': 'Кошелев', 'sex': 'Male', 'city': 'None', 'university\_name': ''}