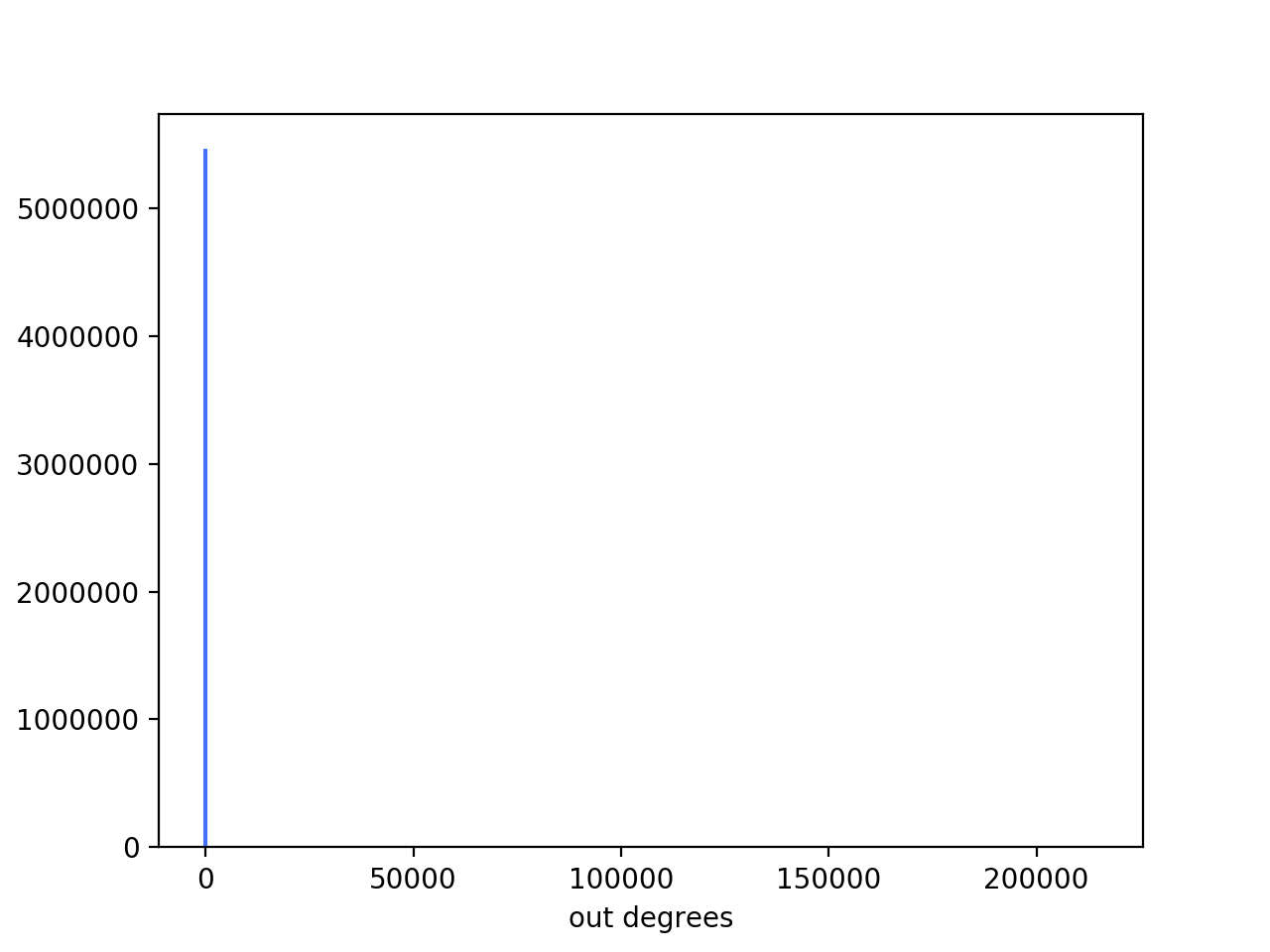
CSC443 Assignment 1 Part2 Research Report

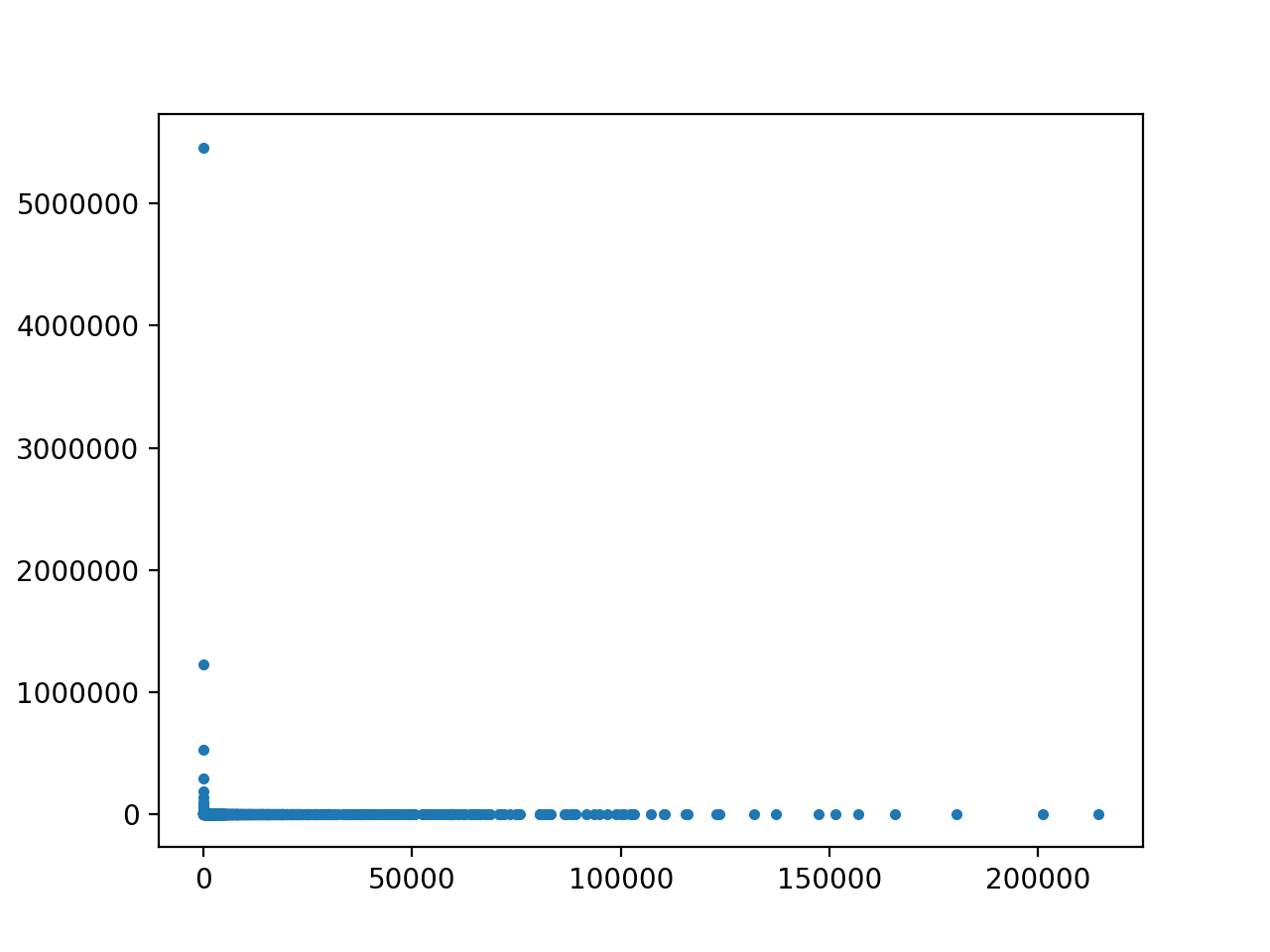
Fangzhou Yu

Yu Xie

3.1

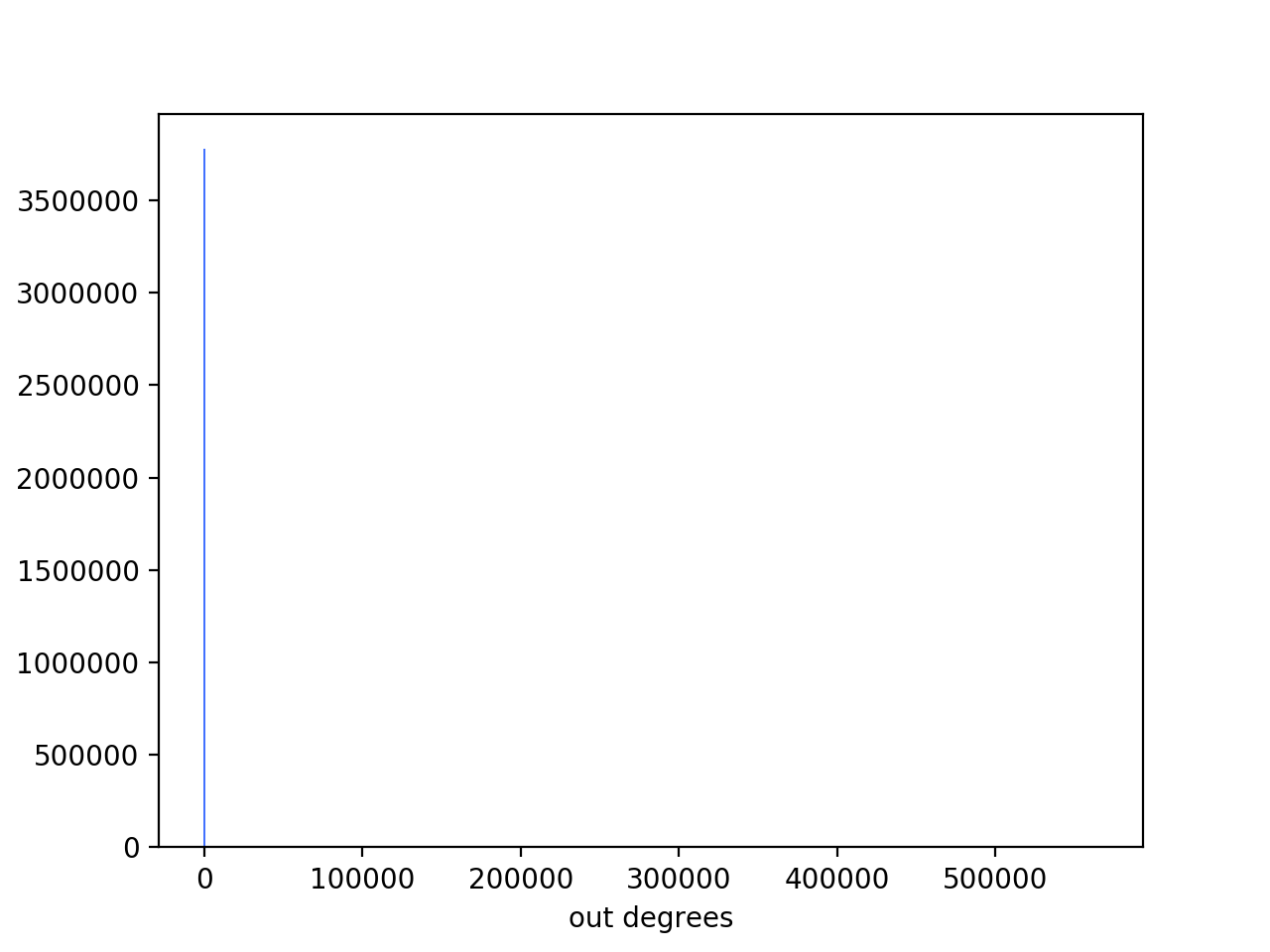
Out degree Histogram

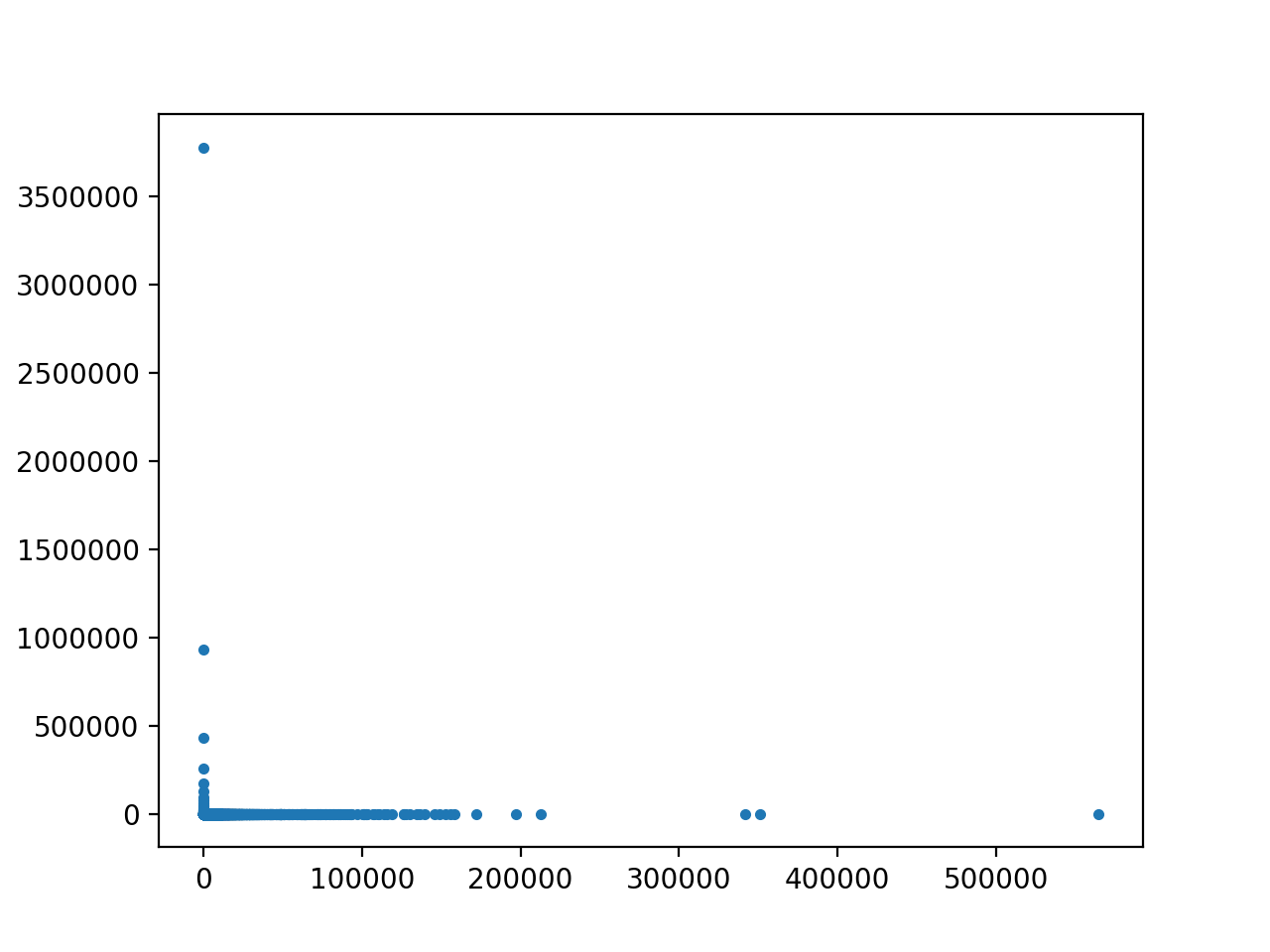




Due to a lot data is close to 1 in the y value, the histogram does not show them very well, I used a plot to show this.

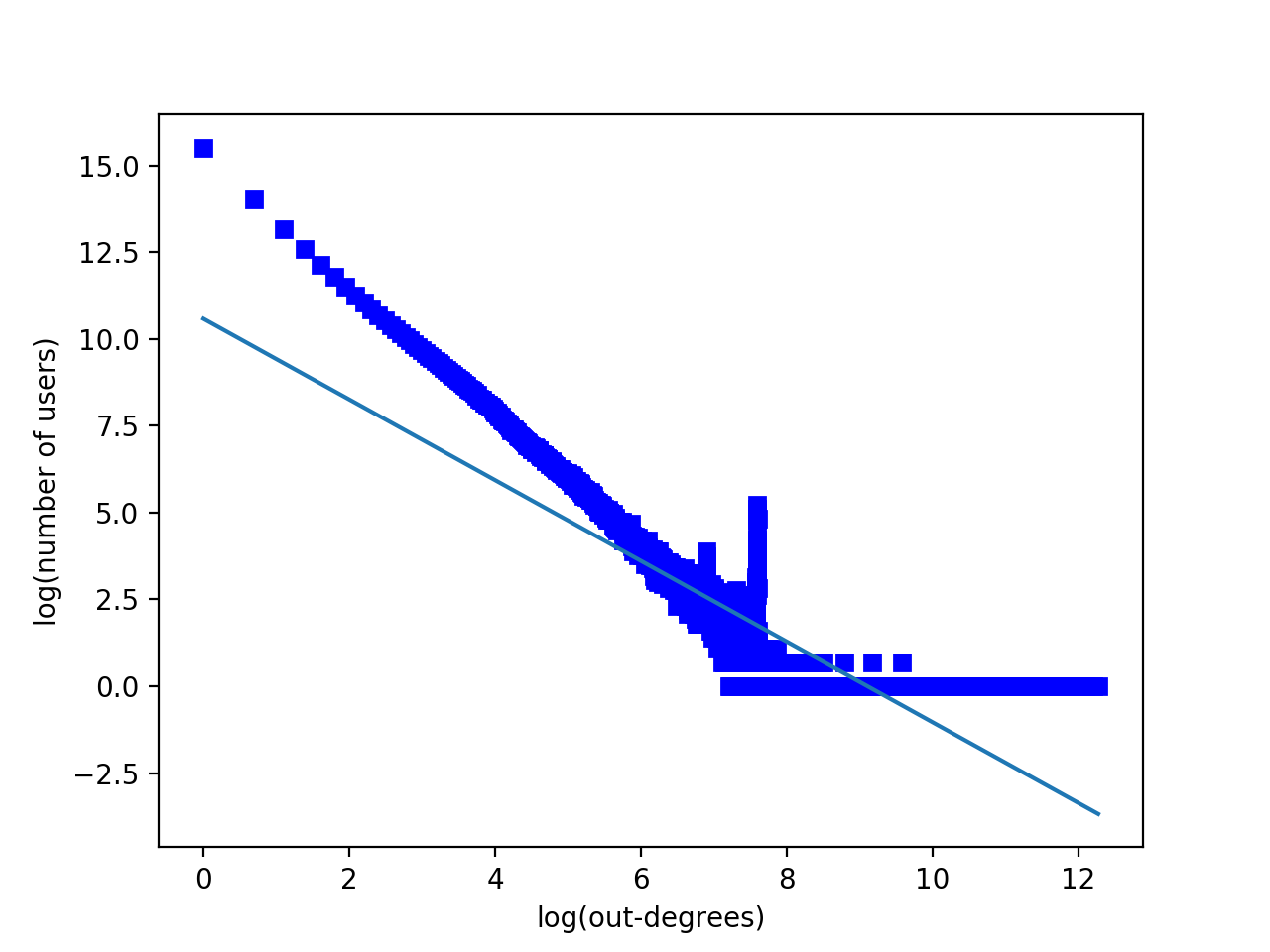
In degree histogram



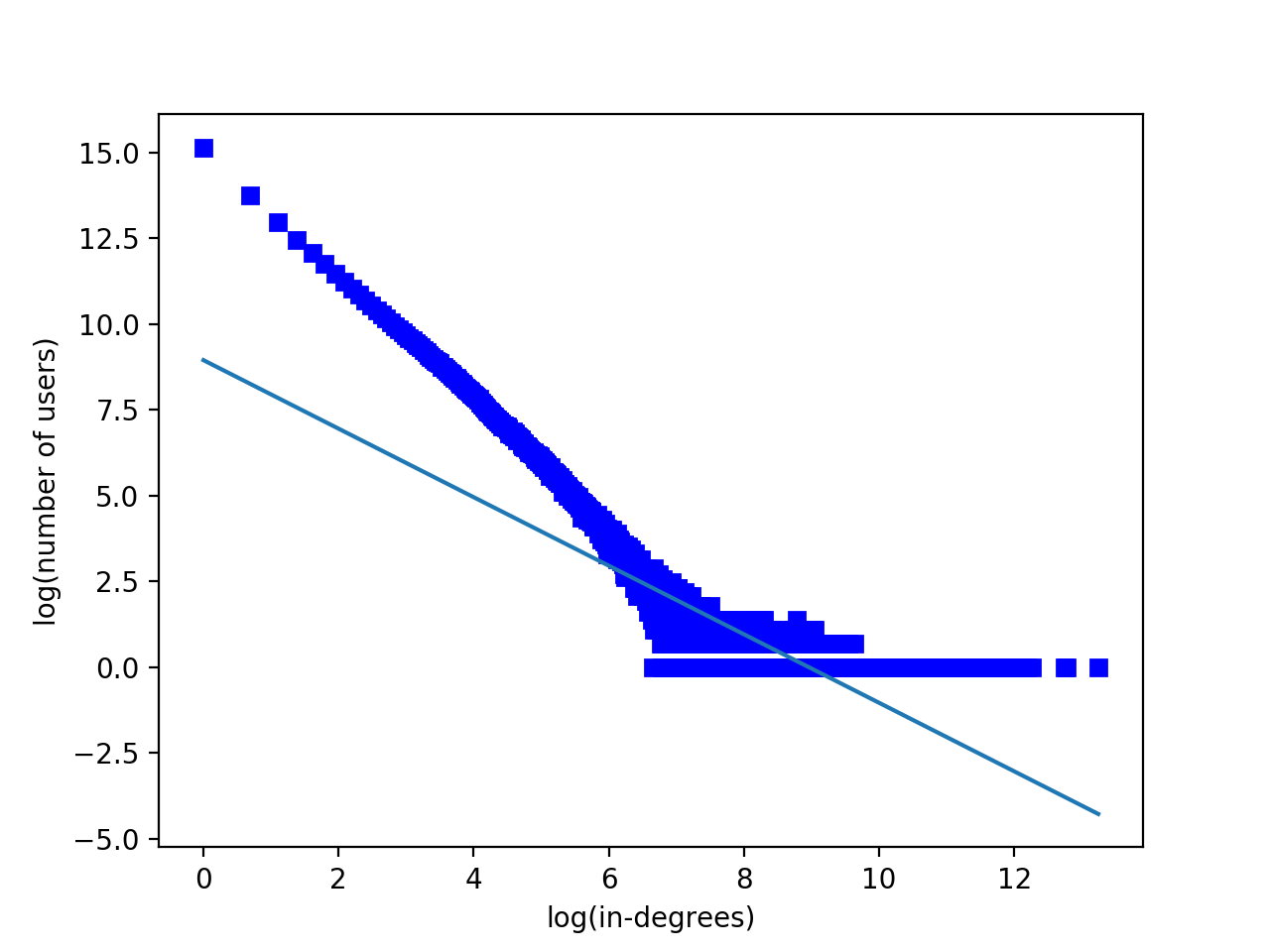


3.2

Out degree power law distribution



In degree power law distribution



Summary:

For out-degree distribution, we count total number of users with that out-degree number from 0 to max-out degree. Then we remove all the out-degree with count 0 from the list. Then we take log from count number of users with that out-degree and out-degree. And we using linear regression try to find a line that fits the data. Same for in-degree distribution.

Out degree has power law distribution with exponent 1.1617. In degree has power law distribution with exponent 0.9984. Because most of the data is has y value close to 0 as x increases. The linear regression does not fit very well here. But we can still see there is a straight line can fit the data. Thus, in-degree/out-degree has a power law distribution with number of users.