

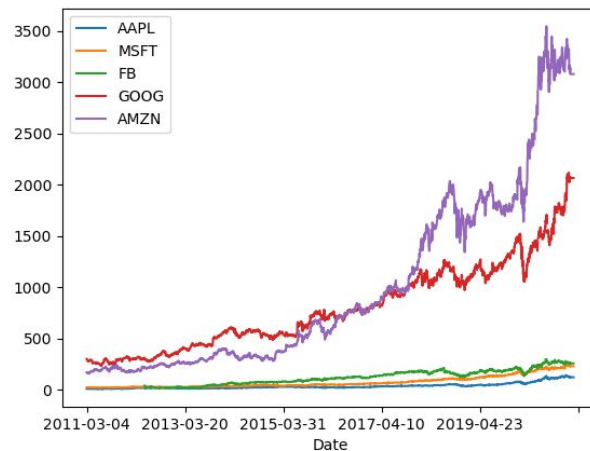
# Forbes 2000 Correlation Network Analysis

**Khoa Nguyen, Rostislav Duda**

# Data Collection

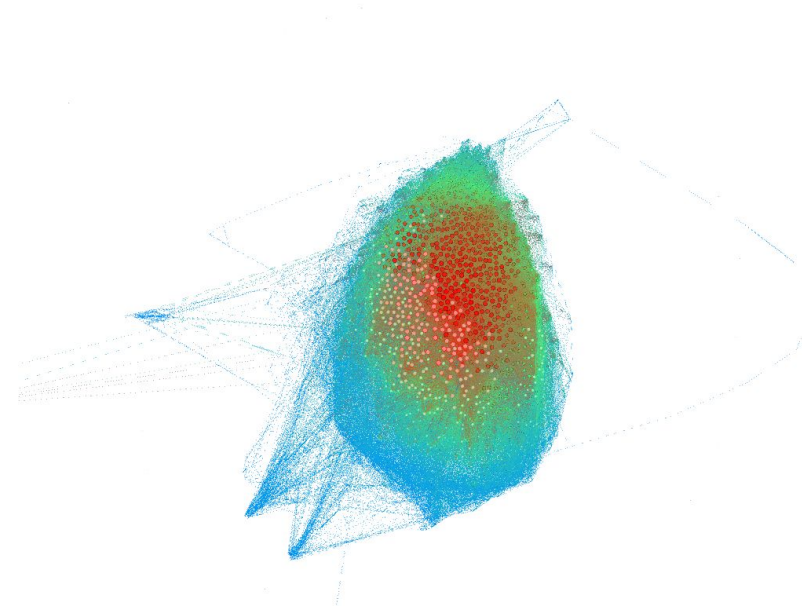
1. Scrape companies names  
<https://www.forbes.com/global2000/>
2. Scrape the tickers, e.g. Amazon has ticker 'AMZN', for all companies
3. Download stock data
4. Calculating pairwise correlation and construct the network

Company	Country	Sales	Profits	Assets	Market Value
ICBC	China	177230	45283.6	4322528	242283
China Construction Bank	China	162147	38914.8	3822048	203818
JPMorgan Chase	United States	142927	29954	3139431	291737
Berkshire Hathaway	United States	254616	81417	817729	455444
Agricultural Bank of China	China	148692	30911.6	3697451	147174
Saudi Arabian Oil Company (Saudi Aramco)	Saudi Arabia	329762	88205	398296	1684765
Ping An Insurance Group	China	154952	18750.9	1218615	187215
Bank of America	United States	112065	24129	2619954	208646
Apple	United States	267712	57215	320400	1285516



	PCC	p-value
1398.hk_0939.hk	0.954883951562283	0
1398.hk_JPM	0.288468817130529	1.07302720147052E-48
1398.hk_BRK-A	0.220250632451891	1.32731337452019E-28
1398.hk_ACGBY	0.431729339741908	4.61585702795937E-113
1398.hk_2222.SR	-0.136446175155932	9.05861722651042E-12
1398.hk_2318.hk	0.390487935600457	4.5873764583598E-91
1398.hk_BAC	0.361096221872179	3.3861127793263E-77
1398.hk_AAPL	-0.0146426486443	0.466261544172121
1398.hk_3988.hk	0.745056684552215	0
1398.hk_T	-0.037653417232246	0.060918346793815
1398.hk_TM	0.218320401284591	4.02602728253699E-28
1398.hk_GOOG	0.08354363918042	3.12796713581881E-05

# Network



Make a link between 2 nodes  
when  $|\text{correlation}| > 0.7$  (strong  
correlation)

- 1955 nodes
- 298546 links,
- network density:  
0.15630394207435988

**Thank you!**