



Stocks From Similar Industry Move in Sync

But does there exist a group of stock that have similar movement regardless of the Industry?
YESS!!







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Find the Rate of Change of Stock over a window of 2 years and also take into account the near window Changes. Assign Each day into pre-defined category.



U.S. Lueter Stock Basis of Si

Cluster Stock Basis of Similarity
Between stocks

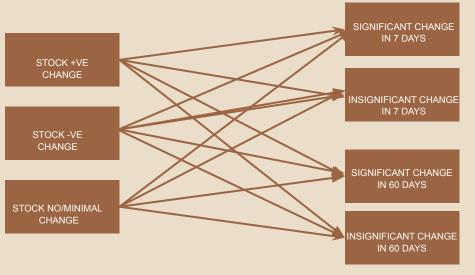


sequences

STEP1: LABELLING MOVEMENT

- 1. Compute the rate of change in Stock price over a 2-year window. At every timestamp.
- 2. To take into account the variations we compute the mean and variance of this change in the 7 and 60-day period prior to each date.
- Categorize the movement at each timestamp.
 Considering these properties we create a total of 12 categories.

STEP1: LABELLING MOVEMENT



12 LABELS



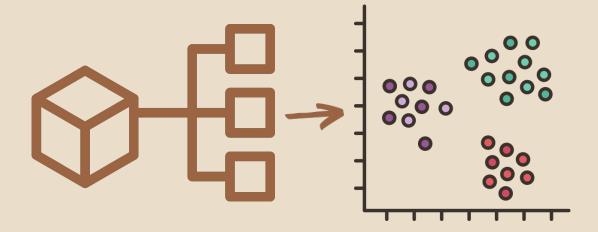
STEP2.1: SEQUENCE MATCHING





STEP3: CLUSTERING

Using the Similarity Score Derived in the Previous Step We Cluster Stocks that are highly Similar



OBSERVATION





MMM: 3M Company is an American multinational conglomerate operating in the fields of industry, worker safety, healthcare, and consumer goods

CTSH: Cognizant Technology Solutions Corporation is an American multinational information technology services and consulting company.

EMN: Eastman Chemical Company is an American company primarily involved in the chemical industry.

- Based On the clustering result we now know the Stocks that have similar movement
- Over the Test Period (Beyond the Period of Clustering) we find the average similarity of Stocks that were assigned to same Cluster

Average Stock Similarity In Cluster (6 months)
63.81%
Weighted Average Stock Similarity In Cluster(6 months)
59.51%

Average Stock Similarity In Cluster (6 months) 67.69% Weighted Average Stock Similarity In Cluster(6 months) 69.44%





Cluster	Ticker	Average Percentage Match	len	Sub-Industry Counter	Different Sub-Industri es
43	[BKR, 'CTRA, 'FANG', 'EOG', 'MRO']	0.9944751381	5	(Oil & Gas Equipment & Services: 1, 'Oil & Gas Exploration & Production': 4)	2
48	[LW, SRE]	0.9944751381	2	(Packaged Foods & Meats': 1, 'Multi-Utilities': 1)	2
27	ритс, техј	0.9944751381	2	(Semiconductors': 1, 'Health Care Equipment': 1)	2
31	[ADBE; ALGN, 'BALL', 'BBY, 'EBAY, 'ETSY, 'GRVO']	0.9944751381	7	(Application Software: 1, Health Care Supplies: 1, 'Metal, Glass & Plastic Containers': 1, 'Computer & Electronics Retail': 1, 'Broadline Retail': 2, 'Semiconductors': 1)	6
23	[p; wac]	0.9889502762	2	(Multi-Utilities: 1, 'Technology Hardware, Storage & Peripherals: 1)	2
51	[BAX', 'CPAY', WBD]	0.9834254144	3	(Health Care Equipment': 1, 'Transaction & Payment Processing Services': 1, 'Broadcasting': 1)	3
28	[MKTX; UBER, ZBH]	0.9834254144	3	(Financial Exchanges & Data': 1, 'Passenger Ground Transportation': 1, 'Health Care Equipment': 1)	3
59	[FE; PCG]	0.9779005525	2	('Electric Utilifies': 1, 'Multi-Utilifies': 1)	2
29	[AKAM, AMZN, ANSS, ADSK, CHTR, DLR, EMN, MTCH, META, CRM, SWKS, SWK, TTWO]	0.951267885	13	(Pinternet Services & Infrastructure* 1, Broadine Retail* 1, "Application Software* 3, Cable & Satellile*, 1, Tata Center REITis*; 1, Life Sciences Tools & Services*; 1, Interactive Media & Services*; 2, Semiconductors*; 1, "Industrial Machinery & Supplies & Components*; 1, "Interactive Home Entertainment*; 1)	10
26	[CLX: CSGP, DAY, ECL; NFLX; PYPL; DIS]	0.8939752697	7	(Household Products: 1, 'Real Estate Services': 1, 'Human Resource & Employment Services': 1, 'Specialty Chemicals': 1, 'Movies & Entertainment': 2, Transaction & Payment Processing Services': 1}	6
32	[ARE, CZR, KMX, CMCSA, EA; NEM, TROW, TYL]	0.8620757695	8	(Office REITs': 1, 'Casinos & Gaming': 1, 'Automotive Retail': 1, 'Cable & Satellite': 1, 'Interactive Home Entertainment': 1, 'Gold': 1, 'Asset Management & Custody Banks': 1, 'Application Software': 1)	8
41	[ATO, 'ED, EIX, 'HIF, YAM, 'TAP, 'OXY, 'OKE, 'PSX, 'SLB, 'VLO,' VST]	0.8489033986	12	(Cas Utilier: 1, 1Mill-Utilier: 1, Electric Utilier: 2, /Aeropace & Defense: 1, 'Oli & Gas Storage & Transportation: 2, 'Brever: 1, 'Oli & Gas Exploration & Production: 1, 'Oli & Gas Refining & Martening: 2, 'Oli & Gas Equipment & Services: 1)	9





