

STOCK MARKET PREDICTION



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01

INTRODUCTION

Signs are growing of a top in both inflation and job gains

A major shift in the economic narrative could be underway

Here's why we're fans of Amazon's 20-for-1 stock split

Nasdaq rises slightly to start week, shaking off jump in bond yields

JPMorgan CEO Dimon says he's 'religious' about paying bankers well

Zelenskyy seeks a corridor for grain shipments; U.S. moves to seize planes from Abramovich

DATA DESCRIPTION

- **DATA SOURCE**

- **Headlines source:**
Reddit World News Channel
- **Stock info source:**
Dow Jones Industries
Average(DJIA)

- **2008-2016**

Range: 2008-08-08 to 2016-07-01

- **2,000 ROWS**

1 row for each date in the range

- **25 COLUMNS**

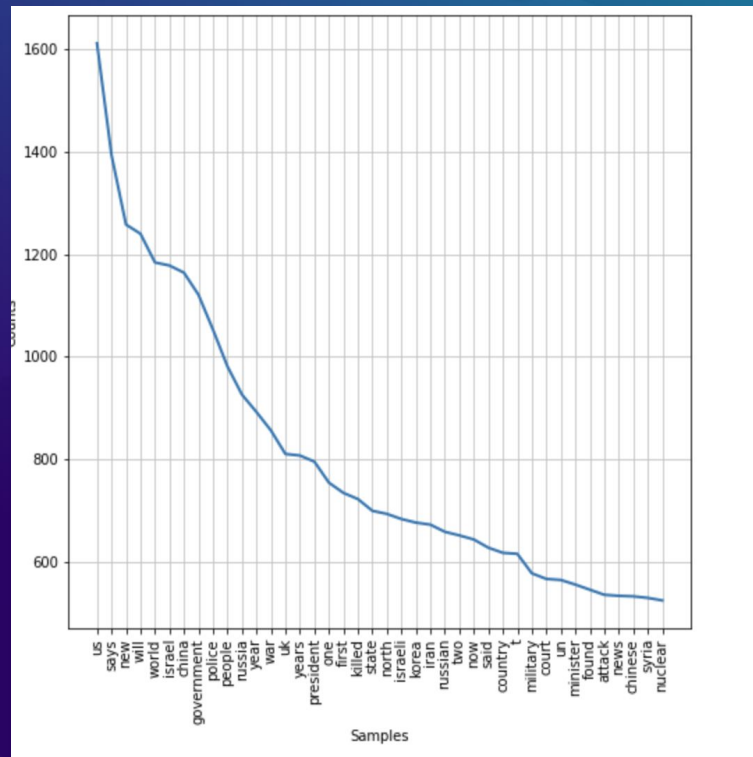
Top 25 news headlines from each day



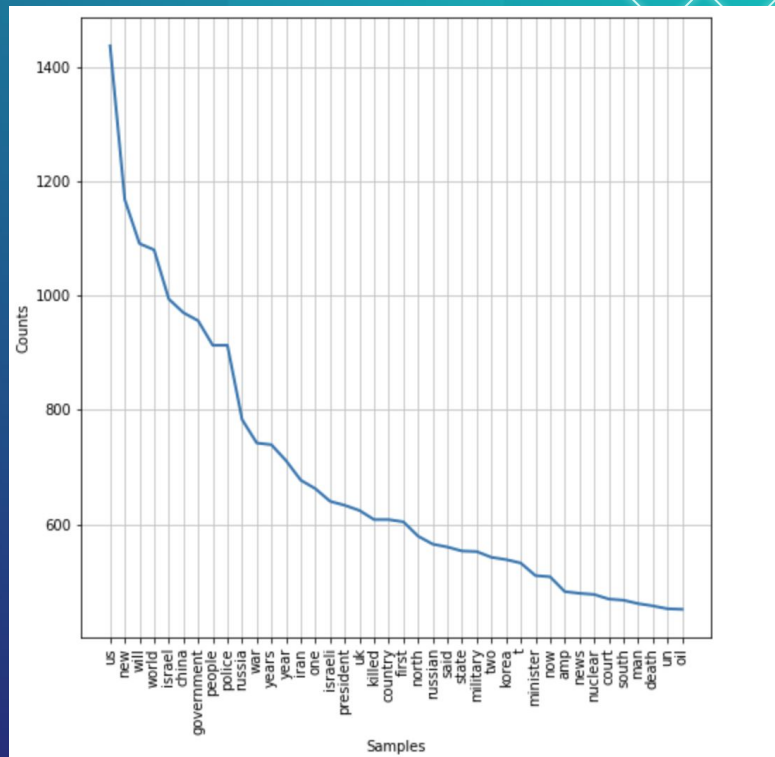
02

EDA

WORD FREQUENCY



CLASS 0



CLASS 1



CLASS 0



CLASS 1

03

MODELING



RESULTS

	Accuracy	Precision	Recall	F1 Score
Random Forest(BOW)	0.85	0.88	0.85	0.85
Naive Bayes(BOW)	0.841	0.85	0.84	0.84
AdaBoost(BOW)	0.788	0.79	0.79	0.79
Random Forest(TFIDF)	0.8386	0.84	0.84	0.84
Naive Bayes(TFIDF)	0.8518	0.89	0.85	0.85
AdaBoost(TFIDF)	0.7989	0.80	0.80	0.80

RESULTS

LOGISTIC REGRESSION

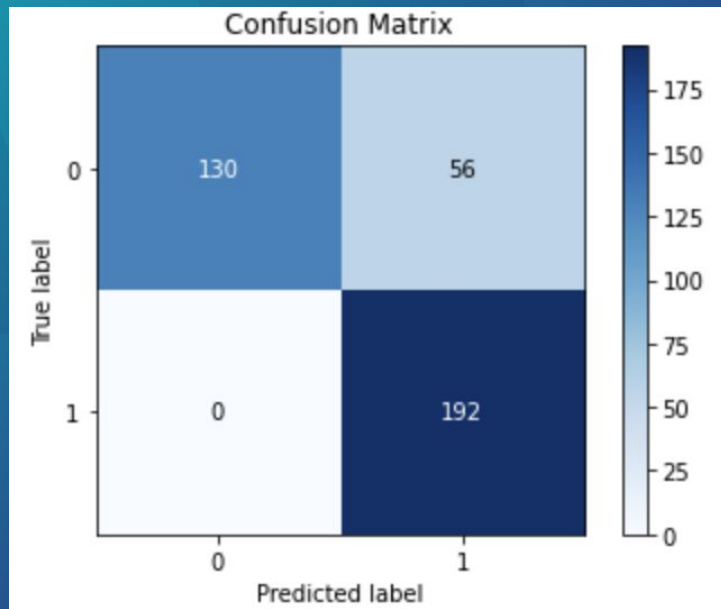
Contribution?	Feature
+0.136	<BIAS>
-0.054	Highlighted in text (sum)

moscow gt beijing high speed train will reduce trip time to hours from the current days two ancient tombs were discovered in egypt on sunday with one representing a symbolic burial site of the god osiris while another is claimed to be a previously unknown pharaonic tomb china complains to pyongyang after n korean soldier kills villagers world news scotland headed towards being fossil fuel free by renewable energy projects combined with energy savings could decarbonise the countrys power sector we need to see the phasing out of conventional generation in scotland prime minister shinzo abe said monday he will express remorse for japans actions in world war ii while highlighting the countrys bid to contribute more actively to world peace in his statement marking the th anniversary of the wars end in august sex slave at centre of prince andrew scandal fled to australia as a teen gay relative of hamas founder faces deportation from canada christian convert whose five uncles were jailed in israel for terror activity says hell be killed if forced to return to west bank the number of female drug addicts in iran has almost doubled since with more than starting between the ages of and after decades of searching the causeway for the great pyramid of egypt has been found india lost tigers in lizard squad hacking of sony was huge marketing scheme to launch lizard stresser a paid hacking service russia may face chaos if extra sanctions imposed germany the saudi air and land forces carry out an attack on isis within its territory isil is reportedly setting up a bank in attempt to legitimatise itself as a nation state israel to brand anti assimilation group lehava as terrorists the islamic state has approved a budget of billion with an expected surplus of million and has opened an islamic bank in mosul the budget reportedly includes monthly wages for the poor disabled and families of individuals killed in airstrikes carried out by us led coalition forces iceland to withdraw eu application lift capital controls blackfield capital founder goes missing the value of the ruble isn t the only thing that is vanishing in russia a moscow hedge fund chief executive has disappeared along with all the money in the firm s accounts rocket stage crashes back to earth in rural chinese village dead as aircraft bombs greek tanker in libyan port belgian murderer frank van den bleeken to die at own request a belgian murderer and rapist serving a life sentence is to be allowed to die by lethal injection next sunday following a ruling under laws in belgium permitting people to request euthanasia czech president criticizes ukrainian pm says yatsenyuk is prime minister of war vietnamese jets join search for missing filipinos in bahamian cargo ship sinking france seeks end to russia sanctions over ukraine china scraps rare earths caps

Weight?	Feature
+0.236	<BIAS>
+0.181	and other
+0.172	that they
+0.169	will be
+0.163	have been
+0.156	in china
+0.148	time in
+0.138	dozens of
+0.137	likely to
+0.131	right to
... 210982	more positive ...
... 192976	more negative ...
-0.133	people are
-0.142	up in
-0.147	bin laden
-0.147	on monday
-0.156	children in
-0.156	around the
-0.158	with iran
-0.159	that is
-0.163	threatens to
-0.190	the country

RESULTS

RANDOM FOREST(TFIDF)



04

DEMO



05

INSIGHTS



INSIGHTS

LEARNINGS

- Headlines actually contain valuable information
- Subtle differences in words can result in large change in sentiment score

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CHALLENGES

- Stock market depends on multiple factors
- Hard to predict whether or not to invest based on just overall market



THANK YOU