

# CSCI 572 Assignment 4: Indexing the Web Using Solr

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**Website Indexed: NBC\_NEWS**

## Step 1: Solr Installation

- Downloaded the Solr by following the instructions given in the Assignment PDF IndexingwithTikaV3.pdf. Started the Solr using bin/solr start.
- Then I created a core myexample in Solr by using bin/solr create -c myexample. In the managed schema file of the core I made the changes as suggested in PDF.
- I indexed the NBC\_NEWS html pages that are downloaded from the google drive.
- This indexing on the solr that can be viewed on the port 8983 by typing localhost:8983/solr/# on the web browser.

The screenshot shows the Solr Admin web interface in a browser window. The address bar displays 'localhost:8983/solr/#/myexample'. The interface includes a sidebar with navigation links: Dashboard, Logging, Core Admin, Java Properties, Thread Dump, Overview (selected), Analysis, Dataimport, Documents, Files, Ping, Plugins / Stats, Query, Replication, Schema, and Segments info. The main content area is divided into three panels: Statistics, Instance, and Replication (Master). The Statistics panel shows metrics like 'Last Modified: 2 days ago', 'Num Docs: 15725', 'Max Doc: 15725', 'Heap Memory Usage: ~1', 'Deleted Docs: 0', 'Version: 101', and 'Segment Count: 13'. The Instance panel lists configuration details such as 'CWD', 'Instance', 'Data', 'Index', and 'Impl'. The Replication (Master) panel contains a table with columns 'Version', 'Gen', and 'Size', showing 'Master (Searching)' and 'Master (Replicable)' status.

	Version	Gen	Size
Master (Searching)	1523341624606	18	346.48 MB
Master (Replicable)	-	-	-

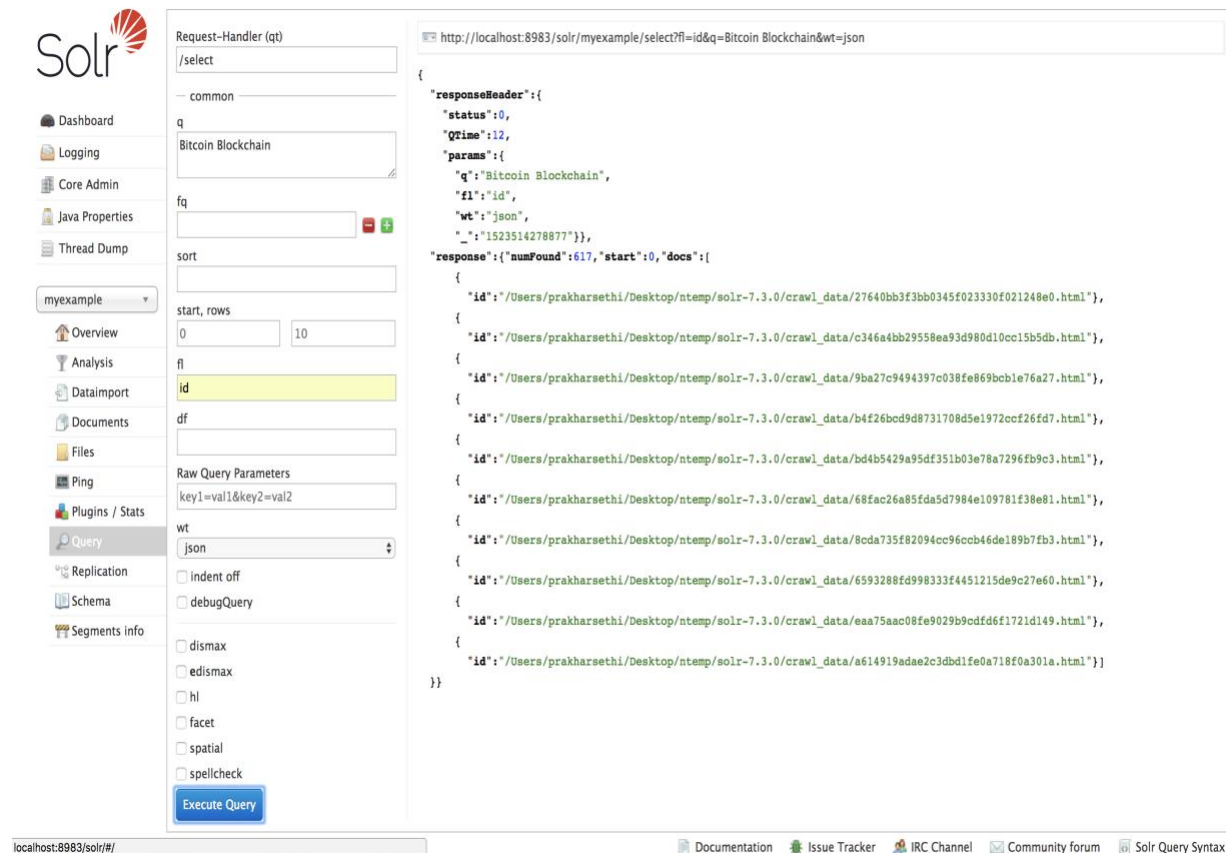
## Step 2: Extracting Edge List using JAVA and PageRank Algorithm

- I downloaded the Jsoup.jar library using the link given in the assignment PDF and wrote the code in java called Extractor.java to extract the EdgeList.txt on the downloaded HTML data.
- Then I used Networkx graph in the pagerank algorithm that returns the pages with the corresponding page rank score. After running the python code using Networkx and following parameters:  
alpha=0.85, personalization=None, max\_iter=30, tol=1e-06, nstart=None, weight='weight', dangling=None  
generated a external\_PageRankFile.txt.
- This txt file contains the page rank score of the corresponding web pages. I copied this file in the data folder of the core myexample.
- In the conf folder of the core made changes in the managed schema and solrconfig.xml file as given in the PDF. I went to the solr dashboard and reload my core after making all changes

The screenshot shows the Solr Admin web interface in a browser. The address bar indicates the URL is `localhost:8983/solr/#/~cores/myexample`. The interface includes a sidebar with navigation links: Dashboard, Logging, Core Admin (selected), Java Properties, and Thread Dump. Below the sidebar is a 'Core Selector' dropdown. The main content area displays the configuration for the 'myexample' core. At the top, there are buttons for 'Add Core', 'Unload', 'Rename', 'Swap', and 'Reload'. The 'Core' section shows the start time as 'less than a minute ago' and the instance directory as `/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/server/solr/myexample`. The 'dataDir' is `/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/server/solr/myexample/data/`. The 'Index' section shows the last modified time as '2 days ago', version as '101', number of documents as '15725', and maximum document size as '15725'. It also indicates that the index is 'optimized' and 'current' with green checkmarks. The directory path is `org.apache.lucene.store.NRTCachingDirectory:NRTCachingDirectory(MMapDirectory@/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/server/solr/myexample/data/index lockFactory=org.apache.lucene.store.NativeFSLockFactory@640aea8f; maxCacheMB=48.0 maxMergeSizeMB=4.0)`. At the bottom, there are links to Documentation, Issue Tracker, IRC Channel, Community forum, and Solr C.

## Step 3: Verifying Results on Solr


- When I executed the Bitcoin Blockchain query on Solr admin by putting fl=id and wt=json I got the following results:



The screenshot shows the Solr Admin interface. On the left is a sidebar with navigation links: Dashboard, Logging, Core Admin, Java Properties, Thread Dump, myexample (selected), Overview, Analysis, Dataimport, Documents, Files, Ping, Plugins / Stats, Query (selected), Replication, Schema, and Segments info. The main panel is titled 'Request-Handler (qt) /select'. It contains several input fields: 'q' with the value 'Bitcoin Blockchain', 'fq' (empty), 'sort' (empty), 'start, rows' with values '0' and '10', 'fl' with the value 'id', 'df' (empty), 'Raw Query Parameters' with 'key1=val1&key2=val2', and 'wt' with the value 'json'. There are checkboxes for 'indent off', 'debugQuery', 'dismax', 'edismax', 'hl', 'facet', 'spatial', and 'spellcheck'. An 'Execute Query' button is at the bottom. On the right, a text area shows the URL 'http://localhost:8983/solr/myexample/select?fl=id&q=Bitcoin Blockchain&wt=json' and the resulting JSON response. The JSON response includes a 'responseHeader' with status 0, qtime 12, and params, and a 'response' object with numFound 617, start 0, and a list of document IDs.

```
{
  "responseHeader": {
    "status": 0,
    "qtime": 12,
    "params": {
      "q": "Bitcoin Blockchain",
      "fl": "id",
      "wt": "json",
      "_": "1523514278877"
    }
  },
  "response": {
    "numFound": 617,
    "start": 0,
    "docs": [
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/27640bb3f3bb0345f02330f021248e0.html",
      },
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/c346a4bb29558ea93d980d10cc15b5db.html",
      },
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/9ba27c9494397c038fe869bcb1e76a27.html",
      },
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/b4f26bcd9d8731708d5e1972ccf26fd7.html",
      },
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/bd4b5429a95df351b03e78a7296fb9c3.html",
      },
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/68fac26a85fda5d7984e109781f38e81.html",
      },
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/8oda735f82094cc96ccb46de189b7fb3.html",
      },
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/6593288fd998333f4451215de9c27e60.html",
      },
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/aaa75aac08fe9029b9cdf6f1721d149.html",
      },
      {
        "id": "/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/a614919adae2c3dbd1fe0a718f0a301a.html"
      }
    ]
  }
}
```

- Similarly, When I put sort=pageRankFile desc then I got the sorted result in descending order on the of their PageRank score. The output is shown below:



Dashboard

Logging

Core Admin

Java Properties

Thread Dump

myexample

Overview

Analysis

Dataimport

Documents

Files

Ping

Plugins / Stats

Query

Replication

Schema

Segments info

Request-Handler (qt)

/select

common

q

Bitcoin Blockchain

fq

sort

pageRankFile desc

start, rows

010

fl

id

df

Raw Query Parameters

key1=val1&key2=val2

wt

json

☐ indent off

☐ debugQuery

☐ dismax

☐ edismax

☐ hl

☐ facet

☐ spatial

☐ spellcheck

Execute Query

http://localhost:8983/solr/myexample/select?fl=id&q=Bitcoin Blockchain&sort=pageRankFile desc&wt=json

```
{
  "responseHeader": {
    "status": 0,
    "QTime": 8,
    "params": {
      "q": "Bitcoin Blockchain",
      "fl": "id",
      "sort": "pageRankFile desc",
      "wt": "json",
      "_: "1523514278877"
    }
  },
  "response": {
    "numFound": 617, "start": 0, "docs": [
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/77b86639d1384ac68141803ec5db27c0.html",
      },
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/582a22b26788b93835aab8770aa4a973.html",
      },
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/c74d9a1aaf8c112e26381d5a6988a355.html",
      },
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/76d165f6b9365bd3fff08cef66b437ba.html",
      },
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/1713bf741b955c27529ab0fea655a1a7.html",
      },
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/36d2cfc582c86dc7940542b6bdbbffe.html",
      },
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/88992172578eb6d14b9af90eb3f45091.html",
      },
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/b0e8908022cde26f7a6df8c281e8e4f8.html",
      },
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/7ea6d6fe5260f68a910e455db96b3e0f.html",
      },
      {
        "id": "/Users/prakharseethi/Desktop/ntemp/solr-7.3.0/crawl_data/bb19ed47761728964946ba72b5287d85.html"
      }
    ]
  }
}
```

Documentation

Issue Tracker

IRC Channel

Community forum

Solr Query Syntax

Hence, Lucene and PageRank algorithms are running.

**Question: Explanation regarding why some pages have higher PageRank values than others?**

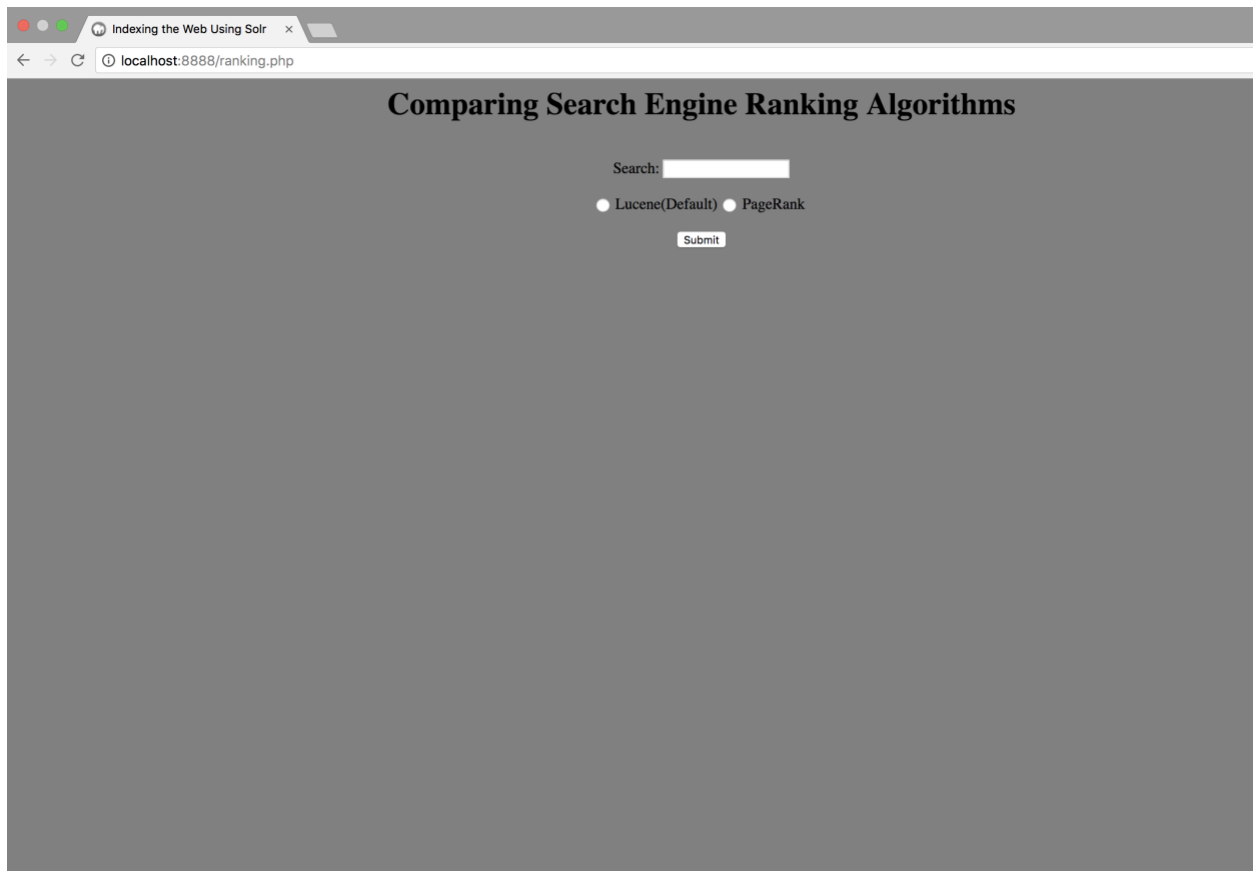
**Answer:** Some pages have higher PageRank values than others as there are more number of pages pointing to that page. PageRank score is basically a vote by other pages on web that how important a page is. A link to page is counted as a vote of support. In this assignment, we created the EdgeList file and with that EdgeList a graph is created to calculate the indegree of a node/link. If a link has a lot of links pointing to it that means the indegree or PageRank score of that link will be high

When the indegree also called PageRank score of a link is calculated then the results are displayed in a descending order that is the top result has the highest PageRank score or indegree. This is basic idea PageRank algorithm use to calculate score of a particular and this is why some pages have higher PageRank values.

Many other methods are used to calculate PageRank but the answer to this question is limited to one paragraph, so the voting criteria is the basic idea.

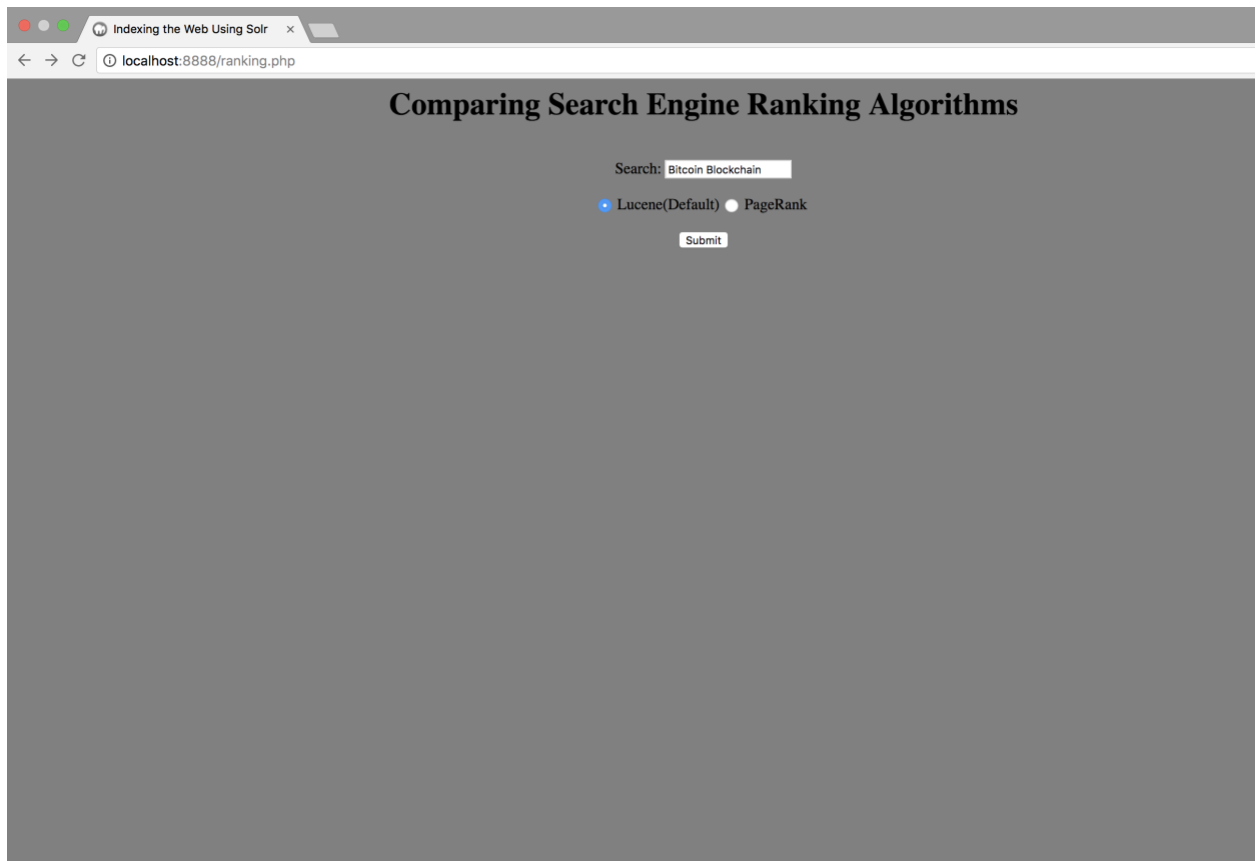
## Flow of Bitcoin Blockchain Query:

1. Using HTML in ranking.php I came up with UI given in the figure below. The given page comes up when launch localhost on the browser. It contains the search bar to type the query along with two searching algorithm choice Lucene and Pagerank along with submit button to display results.



Screenshot of initial page where you enter the query in input box.

2. Then I entered a query “**Bitcoin Blockchain**” and selected the algorithm to apply on it and then submit.



Screenshot of initial page where you enter the query in input box.

3. First, I selected Lucene(Default) algorithm and it displayed the following results for Bitcoin Blockchain query.

Indexing the Web Using Solr x

localhost:8888/ranking.php?q=Bitcoin+Blockchain&search=lucene

### Comparing Search Engine Ranking Algorithms

Search: Bitcoin Blockchain

☒ Lucene(Default) ☐ PageRank

Submit

Results 1 - 10 of 617:

id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/27640bb3f3bb0345f023330f021248e0.html
title	<a href="#">How Bitcoin and other cryptocurrencies could kill off cash</a>
og_description	National governments are also looking into creating virtual currencies of their own.
og_url	<a href="https://www.nbcnews.com/mach/science/how-bitcoin-other-cryptocurrencies-could-kill-cash-ncna857036">https://www.nbcnews.com/mach/science/how-bitcoin-other-cryptocurrencies-could-kill-cash-ncna857036</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/c346a4bb29558ea93d980d10cc15b5db.html
title	<a href="#">Bitcoin pays for entire wedding as its price soars past \$16,000</a>
og_description	With bitcoin hitting a record high of over \$16,000, one wedding in Indiana just got bigger.
og_url	<a href="https://www.nbcnews.com/tech/innovation/bitcoin-pays-entire-wedding-its-price-soars-past-16-000-n826776">https://www.nbcnews.com/tech/innovation/bitcoin-pays-entire-wedding-its-price-soars-past-16-000-n826776</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/9ba27c9494397c038fe869bcb1e76a27.html
title	<a href="#">What is Bitcoin? And should you invest in it?</a>
og_description	Only 24 percent of Americans are familiar with Bitcoin. Here's what you need to know about this "cryptocurrency."
og_url	<a href="https://www.nbcnews.com/better/business/what-bitcoin-should-you-invest-it-ncna844106">https://www.nbcnews.com/better/business/what-bitcoin-should-you-invest-it-ncna844106</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/b4f26bcd9d8731708d5e1972ccf26fd7.html
title	<a href="#">Middle America Is Crazy in Love With Bitcoin</a>
og_description	In May, there were more searches for Bitcoin than Beyonce. Cryptocoins are going mainstream as the middleclass wants in on the "Wild West" action.
og_url	<a href="https://www.nbcnews.com/business/economy/middle-america-crazy-love-bitcoin-q789011">https://www.nbcnews.com/business/economy/middle-america-crazy-love-bitcoin-q789011</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/bd4b5429a95df351b03e78a7296fb9c3.html
title	<a href="#">How Bitcoin and other cryptocurrencies could kill off cash</a>
og_description	National governments are also looking into creating virtual currencies of their own.
og_url	<a href="https://www.nbcnews.com/mach/science/how-bitcoin-other-cryptocurrencies-could-kill-cash-ncna857036">https://www.nbcnews.com/mach/science/how-bitcoin-other-cryptocurrencies-could-kill-cash-ncna857036</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/68fac26a85fda5d7984e109781f38e81.html
title	<a href="#">The hidden dangers of buying virtual currency go beyond a simple hack</a>
og_description	Cyberthieves can break into crypto exchanges, drain crypto wallets, and infect computers with malware.
og_url	<a href="https://www.nbcnews.com/business/business-news/hidden-dangers-buying-virtual-currency-go-beyond-simple-hack-n852706">https://www.nbcnews.com/business/business-news/hidden-dangers-buying-virtual-currency-go-beyond-simple-hack-n852706</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/8cda735f82094cc96ccb46de18967fb3.html
title	<a href="#">Bitcoin pays for entire wedding as its price soars past \$16,000</a>
og_description	With bitcoin hitting a record high of over \$16,000, one wedding in Indiana just got bigger.
og_url	<a href="https://www.nbcnews.com/tech/innovation/bitcoin-pays-entire-wedding-its-price-soars-past-16-000-n826776">https://www.nbcnews.com/tech/innovation/bitcoin-pays-entire-wedding-its-price-soars-past-16-000-n826776</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/6593288fd99833364451215de9c27e60.html
title	<a href="#">Middle America Is Crazy in Love With Bitcoin</a>
og_description	In May, there were more searches for Bitcoin than Beyonce. Cryptocoins are going mainstream as the middleclass wants in on the "Wild West" action.
og_url	<a href="https://www.nbcnews.com/business/economy/middle-america-crazy-love-bitcoin-q789011">https://www.nbcnews.com/business/economy/middle-america-crazy-love-bitcoin-q789011</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/ea75aac08fe9029b9cdfd6f1721d149.html
title	<a href="#">What is Bitcoin? And should you invest in it?</a>
og_description	Only 24 percent of Americans are familiar with Bitcoin. Here's what you need to know about this "cryptocurrency."
og_url	<a href="https://www.nbcnews.com/better/business/what-bitcoin-should-you-invest-it-ncna844106">https://www.nbcnews.com/better/business/what-bitcoin-should-you-invest-it-ncna844106</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/a614919adae2c3dbd1fe0a718f0a301a.html
title	<a href="#">The hidden dangers of buying virtual currency go beyond a simple hack</a>
og_description	Cyberthieves can break into crypto exchanges, drain crypto wallets, and infect computers with malware.
og_url	<a href="https://www.nbcnews.com/business/business-news/hidden-dangers-buying-virtual-currency-go-beyond-simple-hack-n852706">https://www.nbcnews.com/business/business-news/hidden-dangers-buying-virtual-currency-go-beyond-simple-hack-n852706</a>

Screenshot of page which shows the results for Lucene(Default).



4. Then, I selected Pagerank Google's algorithm and it displayed the following results for Bitcoin Blockchain query.

Search: Bitcoin Blockchain

● Lucene(Default) ● PageRank

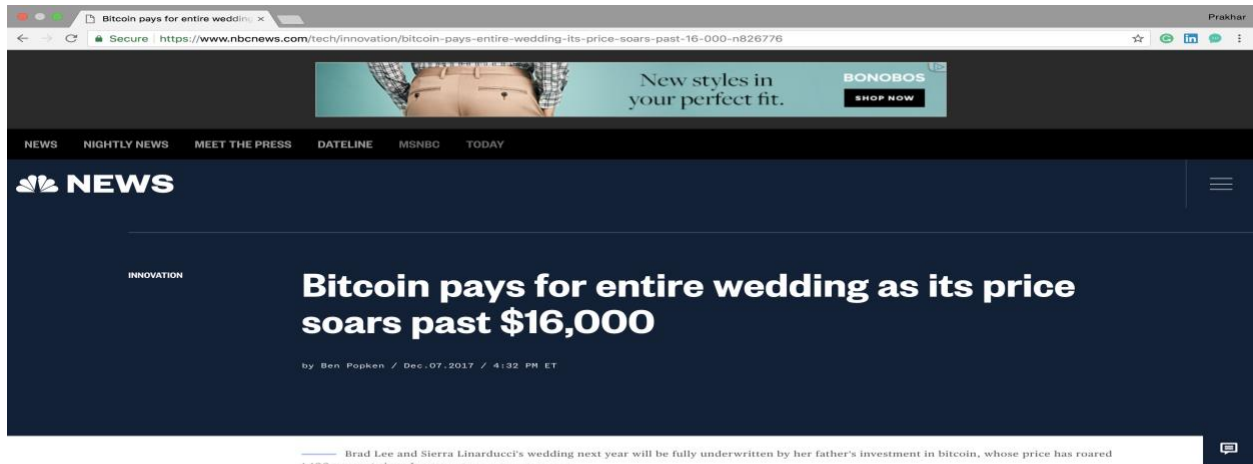
Submit

Results 1 - 10 of 617:

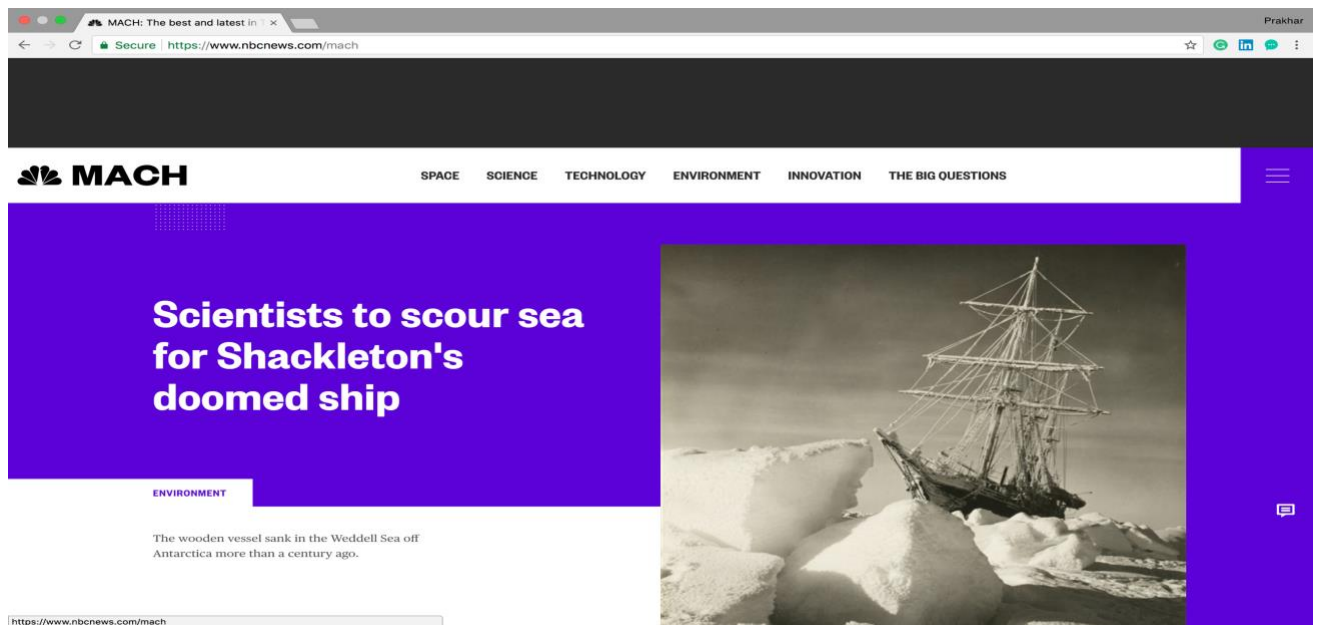
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/77b86639d1384ac68141803ec5dh27c0.html
title	<a href="#">NBC News - Breaking News &amp; Top Stories - Latest World, US &amp; Local News</a>
og_description	Go to NBCNews.com for breaking news, videos, and the latest top stories in world news, business, politics, health and pop culture.
og_url	<a href="https://www.nbcnews.com/">https://www.nbcnews.com/</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/582a22b26788b93835aab8770aa4a973.html
title	<a href="#">MACH: The best and latest in Tech &amp; Innovation   NBC News</a>
og_description	MACH asks big questions and celebrates big ideas. It champions science & innovation, challenges technology, and explores our universe.
og_url	<a href="https://www.nbcnews.com/mach">https://www.nbcnews.com/mach</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/c74d9a1aa8c112e26381d5a6988a355.html
title	<a href="#">Business and Finance News, Reports &amp; Videos - NBC News</a>
og_description	Find the latest news, videos, and photos on finance, industry trends, money, and more on NBCNews.com. Read business reports and watch industry-specific videos online.
og_url	<a href="https://www.nbcnews.com/business">https://www.nbcnews.com/business</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/76d165f6b9365bd3ff08cef66b437ba.html
title	<a href="#">Tech: Latest US &amp; Global News, Innovations, Gadgets, &amp; More - NBC News</a>
og_description	Find the latest tech news stories, photos, and videos on NBCNews.com. Read headlines covering cyber attacks, top new tech products, tech tips & more.
og_url	<a href="https://www.nbcnews.com/tech">https://www.nbcnews.com/tech</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/1713bf741b955c27529ab0feaf55a1a7.html
title	<a href="#">Science: Space, Environment &amp; Trends - NBC News</a>
og_description	Find the latest science news articles, photos and videos covering space, the environment, human development and more on NBCNews.com.
og_url	<a href="https://www.nbcnews.com/science">https://www.nbcnews.com/science</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/36d2effc582c86dc7940542b6bdabffe.html
title	<a href="#">This futuristic jet pack that lets users fly up to 10,000 feet in the sky</a>
og_description	Zapata is the company best known for its hydro-flyer. It's now designed the Flyboard Air which is a jet-powered personal aerial vehicle that can go up to 10,000 feet in the sky.
og_url	<a href="https://www.nbcnews.com/mach/video/this-futuristic-jet-pack-that-lets-users-fly-up-to-10-000-feet-in-the-sky-1189436995946">https://www.nbcnews.com/mach/video/this-futuristic-jet-pack-that-lets-users-fly-up-to-10-000-feet-in-the-sky-1189436995946</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/88992172578eb6d14b9af90eb3645091.html
title	<a href="#">Why YouTube's algorithm boosted conspiracy theory videos in the wake of the Parkland shooting</a>
og_description	YouTube's recommendation algorithm has come under scrutiny before, but the recent school shooting in Parkland, Florida, launched a fresh spate of criticism. Following the shooting, the No. 1 trending video on the platform was a clip claiming one of the survivors was an actor. YouTube eventually removed the video, saying it had been misclassified by the company's systems, and that YouTube would make efforts to fix the larger issues. But the controversy highlights the larger issue of information and truth, amid not only a polarizing political climate but also the era of the social media echo-chamber.
og_url	<a href="https://www.nbcnews.com/mach/video/why-youtube-s-algorithm-boosted-conspiracy-theory-videos-in-the-wake-of-the-parkland-shooting-1187660355671">https://www.nbcnews.com/mach/video/why-youtube-s-algorithm-boosted-conspiracy-theory-videos-in-the-wake-of-the-parkland-shooting-1187660355671</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/b0e8908022cde267a6df8c281e8e4f8.html
title	<a href="#">From space dream to space junk: The Vanguard 1 satellite completes 60 years in space today</a>
og_description	Just months after the Sputnik launch, the U.S government began testing the Vanguard project. Exactly 60 years ago, on March 17th 1958, Vanguard 1 was sent into space from Cape Canaveral, Florida, becoming the second satellite launched by the U.S and the first ever to use solar cell power. After it lost communication in 1964, it is now the oldest piece of man-made space debris.
og_url	<a href="https://www.nbcnews.com/mach/video/from-space-dream-to-space-junk-the-vanguard-1-satellite-completes-60-years-in-space-today-1188094531644">https://www.nbcnews.com/mach/video/from-space-dream-to-space-junk-the-vanguard-1-satellite-completes-60-years-in-space-today-1188094531644</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/7eaf6d6fe5260f68a910e455db96b3e0f.html
title	<a href="#">Pi in the Sky: How a NASA scientist uses Pi to look for life beyond Earth</a>
og_description	Pi is a mathematical constant that is embedded in most calculations. Dr. Luisa Rebull, who is a research scientist at Caltech, is studying Kepler data to learn more about young stars and if there are planets around them. She explains how Pi is crucial to her calculations.
og_url	<a href="https://www.nbcnews.com/mach/video/pi-in-the-sky-how-a-nasa-scientist-uses-pi-to-look-for-life-beyond-earth-1185847363999">https://www.nbcnews.com/mach/video/pi-in-the-sky-how-a-nasa-scientist-uses-pi-to-look-for-life-beyond-earth-1185847363999</a>
id	/Users/prakharsethi/Desktop/ntemp/solr-7.3.0/crawl_data/bb19e647761728964946ba72b5287d85.html
title	<a href="#">Astronaut Scott Kelly's genes show long-term changes after a year in space</a>
og_description	NASA recently released preliminary findings from its Twin Study involving astronauts Scott Kelly and Mark Kelly. Researchers now know that 93% of Scott's genes returned to normal after spending almost a year in space. However, the remaining 7% point to possible longer term changes in his genes.
og_url	<a href="https://www.nbcnews.com/mach/video/astromant-scott-kelly-s-genes-show-long-term-changes-after-a-year-in-space-1186826819794">https://www.nbcnews.com/mach/video/astromant-scott-kelly-s-genes-show-long-term-changes-after-a-year-in-space-1186826819794</a>

Screenshot of page which shows the results for PageRank

5. Screenshot of the actual webpage that opens when clicking on one of the result's link of Lucene(Default) Algorithm:



6. Screenshot of the actual webpage that opens when clicking on one of the result's link of Pagerank Algorithm:



**Next pages contain table containing list of URLs of the top ten results produced by both ranking methods for each query.**

# 1. Bitcoin Blockchain

	Lucene(Default)	PageRank
1	<a href="https://www.nbcnews.com/mach/science/how-bitcoin-other-cryptocurrencies-could-kill-cash-ncna857036">https://www.nbcnews.com/mach/science/how-bitcoin-other-cryptocurrencies-could-kill-cash-ncna857036</a>	<a href="https://www.nbcnews.com/">https://www.nbcnews.com/</a>
2	<a href="https://www.nbcnews.com/tech/innovation/bitcoin-pays-entire-wedding-its-price-soars-past-16-000-n826776">https://www.nbcnews.com/tech/innovation/bitcoin-pays-entire-wedding-its-price-soars-past-16-000-n826776</a>	<a href="https://www.nbcnews.com/mach">https://www.nbcnews.com/mach</a>
3	<a href="https://www.nbcnews.com/better/business/what-bitcoin-should-you-invest-it-ncna844106">https://www.nbcnews.com/better/business/what-bitcoin-should-you-invest-it-ncna844106</a>	<a href="https://www.nbcnews.com/business">https://www.nbcnews.com/business</a>
4	<a href="https://www.nbcnews.com/business/economy/middle-america-crazy-love-bitcoin-n789011">https://www.nbcnews.com/business/economy/middle-america-crazy-love-bitcoin-n789011</a>	<a href="https://www.nbcnews.com/tech">https://www.nbcnews.com/tech</a>
5	<a href="https://www.nbcnews.com/mach/science/how-bitcoin-other-cryptocurrencies-could-kill-cash-ncna857036">https://www.nbcnews.com/mach/science/how-bitcoin-other-cryptocurrencies-could-kill-cash-ncna857036</a>	<a href="https://www.nbcnews.com/science">https://www.nbcnews.com/science</a>
6	<a href="https://www.nbcnews.com/business/business-news/hidden-dangers-buying-virtual-currency-go-beyond-simple-hack-n852706">https://www.nbcnews.com/business/business-news/hidden-dangers-buying-virtual-currency-go-beyond-simple-hack-n852706</a>	<a href="https://www.nbcnews.com/mach/video/this-futuristic-jet-pack-that-lets-users-fly-up-to-10-000-feet-in-the-sky-1189436995946">https://www.nbcnews.com/mach/video/this-futuristic-jet-pack-that-lets-users-fly-up-to-10-000-feet-in-the-sky-1189436995946</a>
7	<a href="https://www.nbcnews.com/tech/innovation/bitcoin-pays-entire-wedding-its-price-soars-past-16-000-n826776">https://www.nbcnews.com/tech/innovation/bitcoin-pays-entire-wedding-its-price-soars-past-16-000-n826776</a>	<a href="https://www.nbcnews.com/mach/video/why-youtube-s-algorithm-boosted-conspiracy-theory-videos-in-the-wake-of-the-parkland-shooting-1187660355671">https://www.nbcnews.com/mach/video/why-youtube-s-algorithm-boosted-conspiracy-theory-videos-in-the-wake-of-the-parkland-shooting-1187660355671</a>
8	<a href="https://www.nbcnews.com/business/economy/middle-america-crazy-love-bitcoin-n789011">https://www.nbcnews.com/business/economy/middle-america-crazy-love-bitcoin-n789011</a>	<a href="https://www.nbcnews.com/mach/video/from-space-dream-to-space-junk-the-vanguard-1-satellite-completes-60-years-in-space-today-1188094531644">https://www.nbcnews.com/mach/video/from-space-dream-to-space-junk-the-vanguard-1-satellite-completes-60-years-in-space-today-1188094531644</a>
9	<a href="https://www.nbcnews.com/better/business/what-bitcoin-should-you-invest-it-ncna844106">https://www.nbcnews.com/better/business/what-bitcoin-should-you-invest-it-ncna844106</a>	<a href="https://www.nbcnews.com/mach/video/pi-in-the-sky-how-a-nasa-scientist-uses-pi-to-look-for-life-beyond-earth-1185847363999">https://www.nbcnews.com/mach/video/pi-in-the-sky-how-a-nasa-scientist-uses-pi-to-look-for-life-beyond-earth-1185847363999</a>
10	<a href="https://www.nbcnews.com/business/business-news/hidden-dangers-buying-virtual-currency-go-beyond-simple-hack-n852706">https://www.nbcnews.com/business/business-news/hidden-dangers-buying-virtual-currency-go-beyond-simple-hack-n852706</a>	<a href="https://www.nbcnews.com/mach/video/astronaut-scott-kelly-s-genes-show-long-term-changes-after-a-year-in-space-1186826819794">https://www.nbcnews.com/mach/video/astronaut-scott-kelly-s-genes-show-long-term-changes-after-a-year-in-space-1186826819794</a>

## 2. Stephen Hawking

	Lucene(Default)	PageRank
1	<a href="https://www.nbcnews.com/mach/science/brief-history-stephen-hawking-cambridge-cultural-icon-ncs1856456">https://www.nbcnews.com/mach/science/brief-history-stephen-hawking-cambridge-cultural-icon-ncs1856456</a>	<a href="https://www.nbcnews.com/">https://www.nbcnews.com/</a>
2	<a href="https://www.nbcnews.com/news/world/british-physicist-stephen-hawking-among-world-s-greatest-minds-science-n702301">https://www.nbcnews.com/news/world/british-physicist-stephen-hawking-among-world-s-greatest-minds-science-n702301</a>	<a href="https://www.nbcnews.com/meet-the-press">https://www.nbcnews.com/meet-the-press</a>
3	<a href="https://www.nbcnews.com/think/opinion/stephen-hawking-s-life-was-made-possible-access-great-health-ncna856971">https://www.nbcnews.com/think/opinion/stephen-hawking-s-life-was-made-possible-access-great-health-ncna856971</a>	<a href="https://www.nbcnews.com/mach">https://www.nbcnews.com/mach</a>
4	<a href="https://www.nbcnews.com/science/space/i-m-atheist-stephen-hawking-god-space-travel-n210076">https://www.nbcnews.com/science/space/i-m-atheist-stephen-hawking-god-space-travel-n210076</a>	<a href="https://www.nbcnews.com/think">https://www.nbcnews.com/think</a>
5	<a href="https://www.nbcnews.com/science/space/i-m-atheist-stephen-hawking-god-space-travel-n210076">https://www.nbcnews.com/science/space/i-m-atheist-stephen-hawking-god-space-travel-n210076</a>	<a href="https://www.nbcnews.com/health">https://www.nbcnews.com/health</a>
6	<a href="https://www.nbcnews.com/news/world/british-physicist-stephen-hawking-among-world-s-greatest-minds-science-n702301">https://www.nbcnews.com/news/world/british-physicist-stephen-hawking-among-world-s-greatest-minds-science-n702301</a>	<a href="https://www.nbcnews.com/news/us-news">https://www.nbcnews.com/news/us-news</a>
7	<a href="https://www.nbcnews.com/mach/science/stephen-hawking-says-humans-must-leave-earth-within-600-years-ncna818926">https://www.nbcnews.com/mach/science/stephen-hawking-says-humans-must-leave-earth-within-600-years-ncna818926</a>	<a href="https://www.nbcnews.com/science">https://www.nbcnews.com/science</a>
8	<a href="http://www.nbcnews.com/science/science-news/six-years-after-zero-g-flight-stephen-hawking-still-space-f6C9703084">http://www.nbcnews.com/science/science-news/six-years-after-zero-g-flight-stephen-hawking-still-space-f6C9703084</a>	<a href="https://www.nbcnews.com/news/photo">https://www.nbcnews.com/news/photo</a>
9	<a href="https://www.nbcnews.com/mach/science/what-stephen-hawking-taught-us-about-black-holes-ncna857471">https://www.nbcnews.com/mach/science/what-stephen-hawking-taught-us-about-black-holes-ncna857471</a>	<a href="https://www.nbcnews.com/video">https://www.nbcnews.com/video</a>
10	<a href="https://www.nbcnews.com/mach/science/stephen-hawking-says-humans-must-leave-earth-within-600-years-ncna818926">https://www.nbcnews.com/mach/science/stephen-hawking-says-humans-must-leave-earth-within-600-years-ncna818926</a>	<a href="https://www.nbcnews.com/news">https://www.nbcnews.com/news</a>

### 3. Falcon Heavy

	Lucene(Default)	PageRank
1	<a href="https://www.nbcnews.com/mach/science/spacex-s-falcon-heavy-launch-gives-big-boost-elon-musk-ncna845256">https://www.nbcnews.com/mach/science/spacex-s-falcon-heavy-launch-gives-big-boost-elon-musk-ncna845256</a>	<a href="https://www.nbcnews.com/">https://www.nbcnews.com/</a>
2	<a href="https://www.nbcnews.com/mach/science/watch-spacex-s-falcon-heavy-rocket-make-its-maiden-flight-ncna845096">https://www.nbcnews.com/mach/science/watch-spacex-s-falcon-heavy-rocket-make-its-maiden-flight-ncna845096</a>	<a href="https://www.nbcnews.com/meet-the-press">https://www.nbcnews.com/meet-the-press</a>
3	<a href="https://www.nbcnews.com/mach/science/watch-spacex-s-falcon-heavy-rocket-make-its-maiden-flight-ncna845096">https://www.nbcnews.com/mach/science/watch-spacex-s-falcon-heavy-rocket-make-its-maiden-flight-ncna845096</a>	<a href="https://www.nbcnews.com/nightly-news">https://www.nbcnews.com/nightly-news</a>
4	<a href="https://www.nbcnews.com/mach/science/spacex-s-falcon-heavy-launch-gives-big-boost-elon-musk-ncna845256">https://www.nbcnews.com/mach/science/spacex-s-falcon-heavy-launch-gives-big-boost-elon-musk-ncna845256</a>	<a href="https://www.nbcnews.com/news/world">https://www.nbcnews.com/news/world</a>
5	<a href="https://www.nbcnews.com/mach/science/spacex-s-falcon-feat-may-be-just-prelude-main-event-ncna846446">https://www.nbcnews.com/mach/science/spacex-s-falcon-feat-may-be-just-prelude-main-event-ncna846446</a>	<a href="https://www.nbcnews.com/news/latino">https://www.nbcnews.com/news/latino</a>
6	<a href="https://www.nbcnews.com/mach/science/here-s-what-will-happen-tesla-spacex-shot-space-ncna845566">https://www.nbcnews.com/mach/science/here-s-what-will-happen-tesla-spacex-shot-space-ncna845566</a>	<a href="https://www.nbcnews.com/science">https://www.nbcnews.com/science</a>
7	<a href="https://www.nbcnews.com/mach/science/month-space-pictures-cosmic-penguin-playing-mars-ncsl852081">https://www.nbcnews.com/mach/science/month-space-pictures-cosmic-penguin-playing-mars-ncsl852081</a>	<a href="https://www.nbcnews.com/news/weather">https://www.nbcnews.com/news/weather</a>
8	<a href="https://www.nbcnews.com/mach/science/spacex-s-falcon-feat-may-be-just-prelude-main-event-ncna846446">https://www.nbcnews.com/mach/science/spacex-s-falcon-feat-may-be-just-prelude-main-event-ncna846446</a>	<a href="https://www.nbcnews.com/news/photo">https://www.nbcnews.com/news/photo</a>
9	<a href="https://www.nbcnews.com/science/space">https://www.nbcnews.com/science/space</a>	<a href="https://www.nbcnews.com/video">https://www.nbcnews.com/video</a>
10	<a href="https://www.nbcnews.com/mach/science/how-spacex-aims-bring-high-speed-internet-whole-world-ncna853766">https://www.nbcnews.com/mach/science/how-spacex-aims-bring-high-speed-internet-whole-world-ncna853766</a>	<a href="https://www.nbcnews.com/news">https://www.nbcnews.com/news</a>

## 4. Syrian War

	Lucene(Default)	PageRank
1	<a href="https://www.nbcnews.com/storyline/syrias-children">https://www.nbcnews.com/storyline/syrias-children</a>	<a href="https://www.nbcnews.com/">https://www.nbcnews.com/</a>
2	<a href="https://www.nbcnews.com/storyline/syrias-children/syrian-civil-war-photo-photographer-s-rescue-goes-viral-n748146">https://www.nbcnews.com/storyline/syrias-children/syrian-civil-war-photo-photographer-s-rescue-goes-viral-n748146</a>	<a href="https://www.nbcnews.com/meet-the-press">https://www.nbcnews.com/meet-the-press</a>
3	<a href="https://www.nbcnews.com/storyline/aleppos-children">https://www.nbcnews.com/storyline/aleppos-children</a>	<a href="https://www.nbcnews.com/nightly-news">https://www.nbcnews.com/nightly-news</a>
4	<a href="https://www.nbcnews.com/news/mideast/syria-s-civil-war-has-been-raging-7-years-what-n849851">https://www.nbcnews.com/news/mideast/syria-s-civil-war-has-been-raging-7-years-what-n849851</a>	<a href="https://www.nbcnews.com/mach">https://www.nbcnews.com/mach</a>
5	<a href="https://www.nbcnews.com/news/mideast/syria-s-civil-war-has-been-raging-7-years-what-n849851">https://www.nbcnews.com/news/mideast/syria-s-civil-war-has-been-raging-7-years-what-n849851</a>	<a href="https://www.nbcnews.com/politics">https://www.nbcnews.com/politics</a>
6	<a href="http://www.nbcnews.com/news/other/barrel-bombs-just-another-symbol-brutality-syrian-civil-war-f2D11765640">http://www.nbcnews.com/news/other/barrel-bombs-just-another-symbol-brutality-syrian-civil-war-f2D11765640</a>	<a href="https://www.nbcnews.com/think">https://www.nbcnews.com/think</a>
7	<a href="https://www.nbcnews.com/slideshow/children-among-injured-besieged-damascus-suburb-n834526">https://www.nbcnews.com/slideshow/children-among-injured-besieged-damascus-suburb-n834526</a>	<a href="https://www.nbcnews.com/feature/nbc-out">https://www.nbcnews.com/feature/nbc-out</a>
8	<a href="https://www.nbcnews.com/slideshow/children-among-injured-besieged-damascus-suburb-n834526">https://www.nbcnews.com/slideshow/children-among-injured-besieged-damascus-suburb-n834526</a>	<a href="https://www.nbcnews.com/business">https://www.nbcnews.com/business</a>
9	<a href="https://www.nbcnews.com/storyline/syrias-suffering-families">https://www.nbcnews.com/storyline/syrias-suffering-families</a>	<a href="https://www.nbcnews.com/news/world">https://www.nbcnews.com/news/world</a>
10	<a href="https://www.nbcnews.com/news/mideast/syria-s-civil-war-has-been-raging-7-years-what-n849851">https://www.nbcnews.com/news/mideast/syria-s-civil-war-has-been-raging-7-years-what-n849851</a>	<a href="https://www.nbcnews.com/news/latino">https://www.nbcnews.com/news/latino</a>

## 5. LA Rams

	Lucene(Default)	PageRank
1	<a href="https://www.nbcnews.com/news/sports/how-history-informs-colin-kaepernick-s-national-anthem-protest-n639366">https://www.nbcnews.com/news/sports/how-history-informs-colin-kaepernick-s-national-anthem-protest-n639366</a>	<a href="https://www.nbcnews.com/">https://www.nbcnews.com/</a>
2	<a href="https://www.nbcnews.com/news/sports/how-history-informs-colin-kaepernick-s-national-anthem-protest-n639366">https://www.nbcnews.com/news/sports/how-history-informs-colin-kaepernick-s-national-anthem-protest-n639366</a>	<a href="https://www.nbcnews.com/meet-the-press">https://www.nbcnews.com/meet-the-press</a>
3	<a href="https://www.nbcnews.com/news/sports/sports-broadcasting-legend-dick-enberg-dies-82-n832076">https://www.nbcnews.com/news/sports/sports-broadcasting-legend-dick-enberg-dies-82-n832076</a>	<a href="https://www.nbcnews.com/news/nbcblk">https://www.nbcnews.com/news/nbcblk</a>
4	<a href="https://www.nbcnews.com/slideshow/black-quarterbacks-who-ve-played-super-bowl-n513226">https://www.nbcnews.com/slideshow/black-quarterbacks-who-ve-played-super-bowl-n513226</a>	<a href="https://www.nbcnews.com/news/latino">https://www.nbcnews.com/news/latino</a>
5	<a href="https://www.nbcnews.com/news/sports/sports-broadcasting-legend-dick-enberg-dies-82-n832076">https://www.nbcnews.com/news/sports/sports-broadcasting-legend-dick-enberg-dies-82-n832076</a>	<a href="https://www.nbcnews.com/tech">https://www.nbcnews.com/tech</a>
6	<a href="https://www.nbcnews.com/pop-culture/music/bernie-casey-pro-football-player-turned-fan-favorite-actor-dies-n803291">https://www.nbcnews.com/pop-culture/music/bernie-casey-pro-football-player-turned-fan-favorite-actor-dies-n803291</a>	<a href="https://www.nbcnews.com/news/us-news/nbc-affiliates-n19981">https://www.nbcnews.com/news/us-news/nbc-affiliates-n19981</a>
7	<a href="https://www.nbcnews.com/pop-culture/music/bernie-casey-pro-football-player-turned-fan-favorite-actor-dies-n803291">https://www.nbcnews.com/pop-culture/music/bernie-casey-pro-football-player-turned-fan-favorite-actor-dies-n803291</a>	<a href="https://www.nbcnews.com/news">https://www.nbcnews.com/news</a>
8	<a href="https://www.nbcnews.com/meet-the-press/meet-press-transcript-october-11-2015-n442476">https://www.nbcnews.com/meet-the-press/meet-press-transcript-october-11-2015-n442476</a>	<a href="https://www.nbcnews.com/better/video/how-mika-brzezinski-found-her-value-and-got-paid-what-she-s-worth-1189457987619">https://www.nbcnews.com/better/video/how-mika-brzezinski-found-her-value-and-got-paid-what-she-s-worth-1189457987619</a>
9	<a href="https://www.nbcnews.com/meet-the-press/meet-press-transcript-october-11-2015-n442476">https://www.nbcnews.com/meet-the-press/meet-press-transcript-october-11-2015-n442476</a>	<a href="https://www.nbcnews.com/better/video/how-not-to-choke-in-sports-and-other-pressure-charged-situations-1186761795616">https://www.nbcnews.com/better/video/how-not-to-choke-in-sports-and-other-pressure-charged-situations-1186761795616</a>
10	<a href="https://www.nbcnews.com/politics/2016-election/la">https://www.nbcnews.com/politics/2016-election/la</a>	<a href="https://www.nbcnews.com/better/video/how-to-lose-weight-and-why-it-s-so-hard-1187543619775">https://www.nbcnews.com/better/video/how-to-lose-weight-and-why-it-s-so-hard-1187543619775</a>

## 6. Black Panther

	Lucene(Default)	PageRank
1	<a href="https://www.nbcnews.com/news/nbcblk/black-panther-s-wakanda-sheds-light-black-excellence-n844801">https://www.nbcnews.com/news/nbcblk/black-panther-s-wakanda-sheds-light-black-excellence-n844801</a>	<a href="https://www.nbcnews.com/">https://www.nbcnews.com/</a>
2	<a href="https://www.nbcnews.com/news/nbcblk/black-panther-sets-fandango-record-top-pre-selling-marvel-movie-n836631">https://www.nbcnews.com/news/nbcblk/black-panther-sets-fandango-record-top-pre-selling-marvel-movie-n836631</a>	<a href="https://www.nbcnews.com/nightly-news">https://www.nbcnews.com/nightly-news</a>
3	<a href="https://www.nbcnews.com/news/nbcblk/black-panther-novelist-journalism-sci-fi-bring-hidden-light-n848011">https://www.nbcnews.com/news/nbcblk/black-panther-novelist-journalism-sci-fi-bring-hidden-light-n848011</a>	<a href="https://www.nbcnews.com/mach">https://www.nbcnews.com/mach</a>
4	<a href="https://www.nbcnews.com/tech/internet/plot-destroy-black-panther-ratings-thwarted-facebook-n844226">https://www.nbcnews.com/tech/internet/plot-destroy-black-panther-ratings-thwarted-facebook-n844226</a>	<a href="https://www.nbcnews.com/think">https://www.nbcnews.com/think</a>
5	<a href="https://www.nbcnews.com/pop-culture/movies/black-panther-blows-away-box-office-192-million-weekend-n849246">https://www.nbcnews.com/pop-culture/movies/black-panther-blows-away-box-office-192-million-weekend-n849246</a>	<a href="https://www.nbcnews.com/health">https://www.nbcnews.com/health</a>
6	<a href="https://www.nbcnews.com/news/nbcblk/black-panther-black-comic-creators-spent-years-breaking-down-barriers-n848461">https://www.nbcnews.com/news/nbcblk/black-panther-black-comic-creators-spent-years-breaking-down-barriers-n848461</a>	<a href="https://www.nbcnews.com/feature/nbc-out">https://www.nbcnews.com/feature/nbc-out</a>
7	<a href="https://www.nbcnews.com/news/nbcblk/black-panther-actress-janeshia-adams-ginyard-talks-living-stuntwoman-life-n847646">https://www.nbcnews.com/news/nbcblk/black-panther-actress-janeshia-adams-ginyard-talks-living-stuntwoman-life-n847646</a>	<a href="https://www.nbcnews.com/pop-culture">https://www.nbcnews.com/pop-culture</a>
8	<a href="https://www.nbcnews.com/think/opinion/defeat-killmonger-black-panther-holds-lessons-israel-ncna850831">https://www.nbcnews.com/think/opinion/defeat-killmonger-black-panther-holds-lessons-israel-ncna850831</a>	<a href="https://www.nbcnews.com/news/nbcblk">https://www.nbcnews.com/news/nbcblk</a>
9	<a href="https://www.nbcnews.com/news/nbcblk/black-panther-novelist-journalism-sci-fi-bring-hidden-light-n848011">https://www.nbcnews.com/news/nbcblk/black-panther-novelist-journalism-sci-fi-bring-hidden-light-n848011</a>	<a href="https://www.nbcnews.com/news/asian-america">https://www.nbcnews.com/news/asian-america</a>
10	<a href="https://www.nbcnews.com/news/nbcblk/stars-black-panther-discuss-hope-marvel-film-impact-n847706">https://www.nbcnews.com/news/nbcblk/stars-black-panther-discuss-hope-marvel-film-impact-n847706</a>	<a href="https://www.nbcnews.com/tech">https://www.nbcnews.com/tech</a>



## 7. Austin Bombings

	Lucene(Default)	PageRank
1	<a href="https://www.nbcnews.com/news/us-news/police-identify-teen-killed-austin-package-bombing-investigation-grows-n856371">https://www.nbcnews.com/news/us-news/police-identify-teen-killed-austin-package-bombing-investigation-grows-n856371</a>	<a href="https://www.nbcnews.com/">https://www.nbcnews.com/</a>
2	<a href="https://www.nbcnews.com/news/us-news/deadly-austin-bombings-were-meant-send-message-police-chief-says-n857786">https://www.nbcnews.com/news/us-news/deadly-austin-bombings-were-meant-send-message-police-chief-says-n857786</a>	<a href="https://www.nbcnews.com/meet-the-press">https://www.nbcnews.com/meet-the-press</a>
3	<a href="https://www.nbcnews.com/news/us-news/deadly-austin-bombings-were-meant-send-message-police-chief-says-n857786">https://www.nbcnews.com/news/us-news/deadly-austin-bombings-were-meant-send-message-police-chief-says-n857786</a>	<a href="https://www.nbcnews.com/nightly-news">https://www.nbcnews.com/nightly-news</a>
4	<a href="https://www.nbcnews.com/widget/video-embed/1184733251954">https://www.nbcnews.com/widget/video-embed/1184733251954</a>	<a href="https://www.nbcnews.com/dateline">https://www.nbcnews.com/dateline</a>
5	<a href="https://www.nbcnews.com/news/us-news/police-identify-teen-killed-austin-package-bombing-investigation-grows-n856371">https://www.nbcnews.com/news/us-news/police-identify-teen-killed-austin-package-bombing-investigation-grows-n856371</a>	<a href="https://www.nbcnews.com/better">https://www.nbcnews.com/better</a>
6	<a href="https://www.nbcnews.com/news/us-news/austin-texas-edge-after-spate-package-bombs-kill-two-n855956">https://www.nbcnews.com/news/us-news/austin-texas-edge-after-spate-package-bombs-kill-two-n855956</a>	<a href="https://www.nbcnews.com/mach">https://www.nbcnews.com/mach</a>
7	<a href="https://www.nbcnews.com/news/us-news/austin-texas-edge-after-spate-package-bombs-kill-two-n855956">https://www.nbcnews.com/news/us-news/austin-texas-edge-after-spate-package-bombs-kill-two-n855956</a>	<a href="https://www.nbcnews.com/leftfield">https://www.nbcnews.com/leftfield</a>
8	<a href="http://www.nbcnews.com/">http://www.nbcnews.com/</a>	<a href="https://www.nbcnews.com/think">https://www.nbcnews.com/think</a>
9	<a href="https://www.nbcnews.com/news/latino/1st-latino-poet-laureate-juan-felipe-herrera-migrant-workers-son-n372816">https://www.nbcnews.com/news/latino/1st-latino-poet-laureate-juan-felipe-herrera-migrant-workers-son-n372816</a>	<a href="https://www.nbcnews.com/news/us-news">https://www.nbcnews.com/news/us-news</a>
10	<a href="https://www.nbcnews.com/news/latino/california-affirmative-action-bill-sparks-fierce-debate-n87426">https://www.nbcnews.com/news/latino/california-affirmative-action-bill-sparks-fierce-debate-n87426</a>	<a href="https://www.nbcnews.com/news/nbcblk">https://www.nbcnews.com/news/nbcblk</a>

## 8. Paris Climate Deal

	Lucene(Default)	PageRank
1	<a href="https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/trump-declines-endorsing-paris-climate-change-deal-g7-summit-will-n765406">https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/trump-declines-endorsing-paris-climate-change-deal-g7-summit-will-n765406</a>	<a href="https://www.nbcnews.com/">https://www.nbcnews.com/</a>
2	<a href="https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/trump-declines-endorsing-paris-climate-change-deal-g7-summit-will-n765406">https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/trump-declines-endorsing-paris-climate-change-deal-g7-summit-will-n765406</a>	<a href="https://www.nbcnews.com/meet-the-press">https://www.nbcnews.com/meet-the-press</a>
3	<a href="https://www.nbcnews.com/politics/white-house/trump-pulls-u-s-out-paris-climate-agreement-n767066">https://www.nbcnews.com/politics/white-house/trump-pulls-u-s-out-paris-climate-agreement-n767066</a>	<a href="https://www.nbcnews.com/dateline">https://www.nbcnews.com/dateline</a>
4	<a href="https://www.nbcnews.com/politics/white-house/here-s-what-happens-if-trump-leaves-paris-climate-agreement-n766761">https://www.nbcnews.com/politics/white-house/here-s-what-happens-if-trump-leaves-paris-climate-agreement-n766761</a>	<a href="https://www.nbcnews.com/mach">https://www.nbcnews.com/mach</a>
5	<a href="https://www.nbcnews.com/politics/politics-news/forget-trump-u-s-storms-ahead-climate-change-never-n801826">https://www.nbcnews.com/politics/politics-news/forget-trump-u-s-storms-ahead-climate-change-never-n801826</a>	<a href="https://www.nbcnews.com/health">https://www.nbcnews.com/health</a>
6	<a href="https://www.nbcnews.com/meet-the-press/meet-press-june-4-2017-n768046">https://www.nbcnews.com/meet-the-press/meet-press-june-4-2017-n768046</a>	<a href="https://www.nbcnews.com/investigations">https://www.nbcnews.com/investigations</a>
7	<a href="https://www.nbcnews.com/news/world/analysis-trump-s-america-first-foreign-policy-isolates-u-s-n833046">https://www.nbcnews.com/news/world/analysis-trump-s-america-first-foreign-policy-isolates-u-s-n833046</a>	<a href="https://www.nbcnews.com/science">https://www.nbcnews.com/science</a>
8	<a href="https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/trump-end-first-foreign-trip-pledges-unwavering-support-u-s-n765446">https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/trump-end-first-foreign-trip-pledges-unwavering-support-u-s-n765446</a>	<a href="https://www.nbcnews.com/news/weather">https://www.nbcnews.com/news/weather</a>
9	<a href="https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/g-7-summit-leaders-brace-clash-trump-trade-climate-n764971">https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/g-7-summit-leaders-brace-clash-trump-trade-climate-n764971</a>	<a href="https://www.nbcnews.com/video">https://www.nbcnews.com/video</a>
10	<a href="https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/trump-end-first-foreign-trip-pledges-unwavering-support-u-s-n765446">https://www.nbcnews.com/storyline/trump-s-first-foreign-trip/trump-end-first-foreign-trip-pledges-unwavering-support-u-s-n765446</a>	<a href="https://www.nbcnews.com/storyline/bill-cosby-scandal">https://www.nbcnews.com/storyline/bill-cosby-scandal</a>

## Overlap Table:

Query Name	Number of Overlaps
Bitcoin Blockchain	0
Stephen Hawking	0
Falcon Heavy	0
Syrian War	0
LA Rams	0
Black Panther	0
Austin Bombings	1
Paris Climate Deal	0

**An overlap graph showing the amount of overlap between the two ranking strategies for all queries.**

