## Kumari Aasha

## USC ID:9488013423

# **Report USA Today**

### Steps used in assignment:

- To accomplish the assignment, I installed Solr on my Mac.
- Initially I followed the steps and tried the default collection with 2 shards by following the link <a href="http://lucene.apache.org/solr/quickstart.html">http://lucene.apache.org/solr/quickstart.html</a> .
- I started with the cloud deployment but later shifted to the normal deployment as it was not required by the assignment.
- Then I proceeded with the actual folder of USA Today and indexed the html files.
- After indexing the webpages, I created a user interface, in which user can enter his queries and get the top ten results for that query, just like google search using PHP.I used a radio button for Solr and PageRank so that user can select which ranking results he/she wants. Initially this search result ranking was from only Lucene.
- To get results according to Page Rank Algorithm, we had to compute page rank scores using page rank calculation methods as mentioned in the assignment.
- To compute the page rank firstly I created a web network using the outgoing list from the set of input html files provided. I used JAVA code to create edge list for the connections, following similar code which was mentioned in the assignment.
- Following that I used NetworkX to calculate page rank values which was very simple as it involved only few commands.

Following were the parameters used

```
alpha=0.85
personalization=None
max_iter=30,
tol=1e-06
```

### nstart=None

### weight='weight'

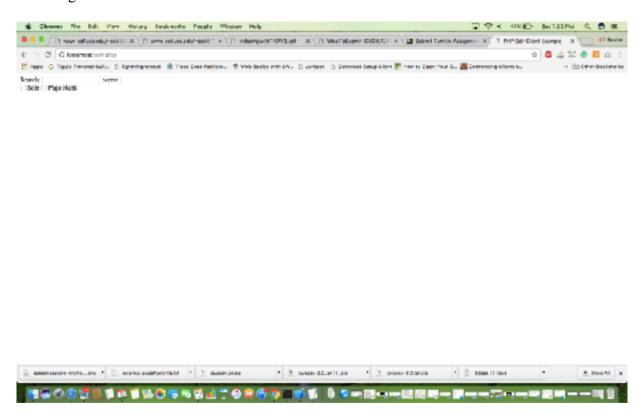
### dangling=None

• After computing the page rank scores, I placed this file in the data folder of the core that I had defined that is solr/server/usatoday2/data/external\_pageRankFile.txt. ThenI made changes in the solrconfig.xml and manages-schema file as mentioned in the assignment.

Some pages have higher page rank values because the number of incoming and outgoing links in that web page are more than others pages. This depicts that the page with higher page rank score has more links, in the form of outgoing links, of the query entered by the user.

Screenshots to describe one complete flow:

### Initial Page:



### Query Page for Elon Musk using Lucene(Solr):

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Beselts 1 - 10 of 182:

#### 1. Elica Masi:: Artificial intelligence dight could lead to World War III

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CHO of Taila, SpaceX-outspekes about from ever growth of artificial intelligence.

#### 2. Elia Mish delays self-trising track to foom on Model 3, Poerto Rica power

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#### 3. Testa to start Model 3 electric our production. CED Elect Mask says

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Teda will begin protection of its first mass-market electric vehicle, CRO Blow Mark said, massing an ambitious goal first was widely questioned.

#### 4. Ellos Mask: Teals can belo its Poerto Rico's rained depoted and

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#### 5. Elea Mask: What we learned about Mars, meen base

https://www.ustoday.com/story/sccs/nation-pow/2017/27/23/cfcm-mask-speech-what-wo-learned/197/05/01/

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#### 6. Testa eyes hurricane rawaged Caribbean, could shape power grids

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Teda syes as expension in extreme ranged islands of the Catildean — and it could become a key player in shaping girls of the future.

### 7. Elica Mask shares video of SpaceX rector falls

https://www.usateday.com.etery.forca/sakingtech.CU/MW/14/cu-enuel-waish-alon-mash-video-rocket-halls/6651600-D

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This is what happens when SpaceX regions have receive landing or taking off.

#### 8 Ellon Mark Indianas Badharan schmid Parato Ricols power grid

https://www.usaoday.com/videos/incaey/COI7/10/06/elos-mask-belaves-assis-can-vibulid-parto-sicta-goven-grid/10/06/188/

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### 10. Terla CEO Elon Music T doubleste Apple

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### Query Page for Elon Musk using Page Rank:

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Bevolts 1 - 10 of 182:

#### 1. Travel News, Tips, and Guides - USATODAYcom

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#### 2. Technology and Electronics Serieses, USATODAYyou.

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Power up with breaking nows on personal technology, electronics, pursing and comparises.

#### 3. Car Reviews and Nove - USATORAY.com

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#### 4. Small Business and Cooperate News - US/CFODAY.com

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USA\_TODAY Messy brings you the later business new for corporations and small businesses.

#### 5. Harricine Maria

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#### 6 NCAAB Score: - NCAAB Buikefull - USA TODAY

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#### 7. NCAAF Sigarin - NCAAF Foodball - USA TOD/CY

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#### 8 SCAAR Steelings - NCAAR Restoratio USA TODAY

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#### 9 NOAAR Saparin - NOAAR Easterfall - USA TODAY

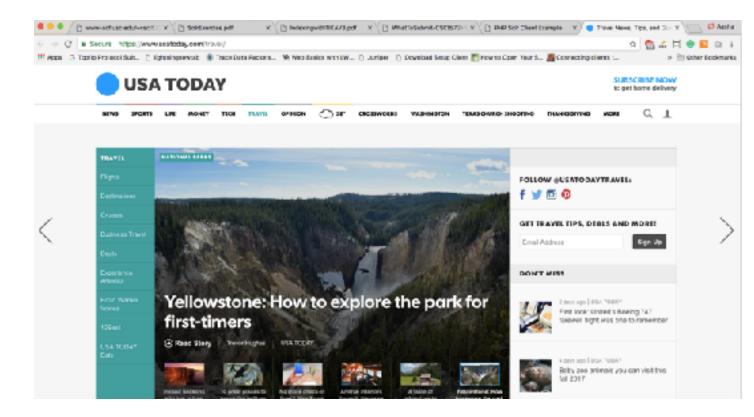
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### 10. NCAAB Teams - NCAAB Basketball - USA TODAY

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Results for Query:

Elon Musk:

Lucene	Page Rank
https://www.usatoday.com/story/ tech/talkingtech/2017/09/05/ elon-musk-artificial- intelligence-battle-most- likely-cause-wwiii/632362001/	https://www.usatoday.com/travel/
https://www.usatoday.com/story/tech/ 2017/10/06/elon-musk-delays-self-driving- truck-focus-model-3-puerto-rico-power/ 741050001/	https://www.usatoday.com/tech/
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https://www.usatoday.com/story/tech/nation- now/2017/09/29/elon-musk-speech-what-we- learned/715703001/	https://www.usatoday.com/topic/ Hurricane-Maria/local
https://www.usatoday.com/story/news/nation-now/2017/10/01/tesla-eyes-hurricane-ravaged-caribbean-could-shape-power-grids/721986001/	https://www.usatoday.com/ sports/ncaab/scores/
https://www.usatoday.com/story/tech/ talkingtech/2017/09/14/you-must-watch-elon- musk-video-rocket-fails/665166001/	https://www.usatoday.com/ sports/ncaaf/sagarin/
https://www.usatoday.com/videos/money/ 2017/10/06/elon-musk-believes-tesla-can- rebuild-puerto-ricos-power-grid/106363188/	https://www.usatoday.com/sports/ncaab/standings/
https://www.usatoday.com/story/life/ entertainthis/2017/04/24/amber-heard-elon- musk-dating-public-debut-instagram-posts/ 100834568/	https://www.usatoday.com/ sports/ncaab/sagarin/
https://www.usatoday.com/story/driveon/ 2015/10/09/tesla-elon-musk-apple-hate/ 73689838/	https://www.usatoday.com/ sports/ncaab/teams/

## Star Wars:

Lucene	Page Rank
https://www.usatoday.com/story/ life/movies/2015/11/03/star- wars-the-force-awakens-masks- lightsabers-amc-cinemark/ 75089340/	
https://www.usatoday.com/story/ life/movies/2015/12/16/review- star-wars-the-force-awakens/ 77342318/	https://www.usatoday.com/money/
https://www.usatoday.com/story/ life/movies/2015/12/14/ harrison-ford-star-wars-the- force-awakens/77243366/	https://www.usatoday.com/policing/
https://www.usatoday.com/story/ life/movies/2015/12/13/jj- abrams-star-wars-the-force- awakens/76911016/	https://www.usatoday.com
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https://www.usatoday.com/story/ life/movies/2017/09/12/j-j- abrams-return-star-wars-direct- episode-ix-replacing-colin- trevorrow/657203001/	https://www.usatoday.com/life/
https://www.usatoday.com/story/ life/movies/2017/08/31/star- wars-five-best-ways-celebrate- the-last-jedi-force-friday-ii/ 618268001/	https://www.usatoday.com/tech/

Lucene	Page Rank
https://www.usatoday.com/story/money/business/small-business-central/2017/10/08/star-wars-last-jedi-trailer-gets-debut-monday-night-football/744286001/	https://www.usatoday.com/story/news/ 2013/01/09/corrections-clarifications/ 1821023/
https://www.usatoday.com/story/ life/movies/2017/10/09/new- star-wars-last-jedi-trailer- hints-troubling-tie-between- rey-and-kylo-ren/748730001/	https://www.usatoday.com/topic/Las-Vegas-shooting/local

## North Korea:

Lucene	Page Rank
https://www.usatoday.com/story/news/world/ 2017/06/17/three-americans-still-detained- north-korean-jails/102948008/	https://www.usatoday.com/opinion/
https://www.usatoday.com/story/news/ 2017/06/19/north-korean-treatment-western- prisoners-bizarre-not-always-physically- brutal/103022748/	https://www.usatoday.com/policing/
https://www.usatoday.com/story/news/world/ 2016/01/06/north-korea-hydrogen-bomb/ 78345074/	https://www.usatoday.com/news/
https://www.usatoday.com/story/news/world/ 2017/04/28/seoul-north-korea-test-fires- missile/101044820/	
https://www.usatoday.com/story/news/ 2017/07/04/north-korea-ballistic-missile-south- korea/449341001/	https://www.usatoday.com/story/news/ 2013/01/09/corrections-clarifications/ 1821023/
https://www.usatoday.com/story/news/world/ 2017/09/02/north-korea-nuclear-test-seismic- activity/629486001/	https://www.usatoday.com/policing/data- casualties
https://www.usatoday.com/story/news/world/ 2017/07/17/united-states-missile-defense- north-korea-threats/470177001/	https://www.usatoday.com/sports/ncaaf/
https://www.usatoday.com/story/news/world/ 2017/08/29/north-korea-fires-ballistic-missile- over-japan/611119001/	https://www.usatoday.com/olympics-rio-2016/

Lucene	Page Rank
https://www.usatoday.com/story/news/world/ 2017/08/08/report-north-korea-has-nuke-fits- inside-missile/549188001/	https://www.usatoday.com/policing/politics
https://www.usatoday.com/story/news/politics/2017/06/13/north-korea-releases-us-citizen-otto-warmbier-tillerson-says/102806222/	https://www.usatoday.com/news/world/

# LA Dodgers

Lucene	Page Rank
https://www.usatoday.com/sports/mlb/salaries/ 2016/player/all/	
https://www.usatoday.com/sports/mlb/salaries/ 2015/player/all/	https://www.usatoday.com/life/
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	https://www.usatoday.com/olympics-rio-2016/
https://www.usatoday.com/sports/mlb/salaries/2012/player/all/	https://www.usatoday.com/sports/boxing/
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https://www.usatoday.com/sports/mlb/salaries/	https://www.usatoday.com/sports/mlb/
https://www.usatoday.com/story/sports/mlb/ 2017/10/09/leading-off-watching-weather-in- boston-greinke-vs-dodgers/106458414/	https://www.usatoday.com/life/entertainthis/
https://www.usatoday.com/sports/mlb/salaries/2014/player/all/	https://www.usatoday.com/sports/ncaab/
https://www.usatoday.com/sports/mlb/ salaries/2009/player/all/	https://www.usatoday.com/sports/nba/

## Puerto Rico:

Lucene	Page Rank
https://www.usatoday.com/story/news/politics/2017/09/29/acting-homeland-security-director-calls-reach-hurricane-maria-a-good-news-story-mayor-san-juan-outra/716464001/	https://www.usatoday.com/opinion/
https://www.usatoday.com/story/news/nation-now/2017/10/04/torres-aid-mission-puerto-rico/734371001/	
https://www.usatoday.com/story/news/nation-now/2017/10/08/aid-makes-needy-hurricane-maria-survivors-puerto-rico/744978001/	https://www.usatoday.com/weather/
https://www.usatoday.com/story/news/politics/ 2017/09/29/trump-hurricane-damaged-puerto- rico-weve-never-seen-situation-like-this/ 716531001/	https://www.usatoday.com
https://www.usatoday.com/story/news/nation-now/2017/10/05/husband-wife-have-surprise-reunion-puerto-rico-airport/737828001/	https://www.usatoday.com/news/
https://www.usatoday.com/story/news/world/ 2017/09/20/puerto-rico-braces-direct-hit- hurricane-maria/684121001/	
https://www.usatoday.com/story/news/nation/ 2017/09/26/why-puerto-rico-faces- monumental-recovery-effort/703515001/	https://www.usatoday.com/tech/
https://www.usatoday.com/story/news/ 2017/09/24/puerto-rico-dam-holding-some- local-officials-say-threat-overblown/ 697748001/	https://www.usatoday.com/story/news/ 2013/01/09/corrections-clarifications/ 1821023/
https://www.usatoday.com/story/news/world/ 2017/09/21/puerto-ricans-hurricane-maria/ 688060001/	https://www.usatoday.com/tech/talkingtech/
https://www.usatoday.com/story/weather/ hurricanes/2017/10/05/puerto-rico-clean- water/734813001/	https://www.usatoday.com/travel/ roadwarriorvoices/

# Hurricane Harvey:

Lucene	Page Rank
https://www.usatoday.com/story/opinion/ 2017/08/28/hurricane-harvey-shadowed-two- lessons-2005-editorials-debates/610503001/	https://www.usatoday.com/opinion/
https://www.usatoday.com/story/news/nation/ 2017/09/04/houston-open-business/ 631151001/	
https://www.usatoday.com/story/news/nation/ 2017/08/28/heartbreak-texas-harvey- drive-30-000-shelters-fema-says/607224001/	https://www.usatoday.com/washington/
https://www.usatoday.com/story/news/ 2017/08/27/cajun-navy-heads-texas-aid- rescues/606883001/	
https://www.usatoday.com/story/opinion/faith-in-america/2017/08/30/storm-the-church-bigger-than-joel-osteens-building/618795001/	https://www.usatoday.com/weather/
https://www.usatoday.com/story/news/nation-now/2017/08/28/harvey-nursing-home-residents-rescued-after-viral-photo-safe-warm-dry/610575001/	https://www.usatoday.com/money/
https://www.usatoday.com/story/news/nation- now/2017/08/27/harvey-nursing-home- residents-rescued-floodwaters-after-photo- goes-viral/606987001/	
https://www.usatoday.com/story/news/nation- now/2017/08/31/hurricane-harvey-devastated- texas-see-wreckage-drone/619985001/	https://www.usatoday.com/policing/
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## iPhone X:

Lucene	Page Rank
https://www.usatoday.com/story/tech/ reviewedcom/2017/09/12/should-you- upgrade-to-the-new-iphone-8-or-iphone-x/ 105546142/	https://www.usatoday.com/opinion/
https://www.usatoday.com/story/tech/ 2017/09/13/iphone-x-too-good-iphone-8-8- plus-may-soon-find-out/663345001/	
https://www.usatoday.com/story/tech/ reviewedcom/2017/09/25/7-great-cases-that- will-work-with-the-new-iphone-8-and-8-plus/ 105985358/	https://www.usatoday.com/washington/
https://www.usatoday.com/story/tech/ talkingtech/2017/09/11/apples-iphone-event- heres-how-watch/653065001/	
https://www.usatoday.com/story/tech/columnist/baig/2017/09/12/iphone-8-how-removing-home-button-change-your-iphone-experience/641540001/	https://www.usatoday.com/weather/
https://www.usatoday.com/story/tech/ columnist/2017/09/09/iphone-8-how-sell-your- old-iphone-most-money/649373001/	https://www.usatoday.com/money/
http://www.usatoday.com/picture-gallery/tech/2017/06/23/iphone-8-evolution-of-the-iphone-over-the-years/103144056/	
http://www.usatoday.com/picture-gallery/tech/2017/06/23/iphone-8-evolution-of-the-iphone-over-the-years/103144056/	https://www.usatoday.com/policing/
https://www.usatoday.com/story/tech/ talkingtech/2017/09/19/apple-iphone- consumers-waiting-iphone-x/681952001/	https://www.usatoday.com
https://www.usatoday.com/story/tech/ talkingtech/2017/09/13/skip-iphone-x-and-8-if- you-need-iphone-better-deal/660743001/	None

## Paris Climate Deal:

Lucene	Page Rank
https://www.usatoday.com/story/news/nation/ 2017/05/31/only-two-nations-out-197-oppose- climate-pactand-us-may-next/102360164/	https://www.usatoday.com/opinion/
https://www.usatoday.com/story/news/ 2017/06/01/trump-withdraw-paris-climate- deal-5-things-you-need-know-thursday/ 102286628/	
https://www.usatoday.com/story/news/politics/2017/09/16/reports-trump-administration-may-not-pull-out-paris-climate-agreement/673988001/	https://www.usatoday.com/policing/
https://www.usatoday.com/story/news/world/ 2017/06/01/trump-paris-agreement-climate- change-world-reaction/102390936/	https://www.usatoday.com
https://www.usatoday.com/story/news/politics/2016/02/09/supreme-court-halts-obamas-emissions-rule/80085182/	https://www.usatoday.com/travel/
	https://www.usatoday.com/news/
https://www.usatoday.com/story/news/ 2017/04/20/science-march-war-truth-political- polarization/100636124/	https://www.usatoday.com/life/
https://www.usatoday.com/story/opinion/ 2017/10/02/north-korea-trump-needs-china- but-hes-doing-it-wrong-max-baucus-ryan- hass-column/721378001/	https://www.usatoday.com/sports/
https://www.usatoday.com/story/news/ 2014/12/01/five-things-to-know-monday/ 19703739/	https://www.usatoday.com/tech/
	https://www.usatoday.com/story/news/ 2013/01/09/corrections-clarifications/1821023/

## Overlap:

