Michael Gyarmathy
CSCE 470
9/23/14

Homework 2 Report

Part 1

"Your job is simple: create a webpage that ranks the highest for the query *vnuate klipuycate*."

URL: http://michael.gyarmathy.me/projects/vnuate-klipuycate

There were several elements to my strategy to produce a high-ranking web page for this competition. First and foremost, I wanted to get my page out on the internet to be crawled by Google and Bing as soon as possible. My hypothesis is that early originators of a new keyword get more priority in search rankings. Second, I created the page as an entry on my personal blog site. I figured that a site that has regular traffic would rank higher than a brand new web site. Third, I followed Google's Webmaster tools recommendations and updated my page's markup accordingly. This included adding meta tags for title, description, and keywords. Google Webmaster also suggested submitting my site's sitemap.xml file for quicker indexing. I repeated the same process to be indexed into Bing's document index as well.

On the more creative side of my strategy, I did the following: 1) Google suggests adding microdata markup for higher rankings. As a result, I added markup to my page following schema.org's microdata standards to list Vnuate Klipuycate as a Business/Organization. 2) I posted links to my page on various social media sites to generate a lot of traffic to the page. The more traffic a page has, the more likely it will be listed as something popular and important at the top of the list. 3) I partnered with some of the other leaders in the competition, including Jess Yarbrough (vnuateklipuycate.com), to trade links to one another's sites. Based on my understanding of the PageRank algorithm, these students' pages were considered most important to Google's ranking algorithm. By having their pages link to mine, I could share some of their PageRank score.

Part 2

(note: this script takes several minutes to complete)

```
$ python part-2.py
Homework 2, Part 2: list the top-10 most similar reviews

GdslJv-jjgRlvex7CSpBkg: Review for the $9.99 Groupon deal for five jello
shots.

Not much to say really. Groupon was easy to redeem. No line around 10 PM. Got
the jello shots in grape and apple.. Wasn't really that good.
4WPpo2wiVnvS8IIDGpERwA: We had a groupon for Jell-o Shots at Pink's. We had
green apple, blueberry, & grape. We took them outside on the nice little patio
area to people watch. The Jello-o shots were really good, and the outside
seating is always a plus.

----

ZzZkq7irweM6Min8Trm4aQ: Bacon chili cheese dog...Blah.
m_5DQFyoY9J5DY0TuUuDRg: This place is just way to expensive for average hot
dogs. Yeah okay its nice to say you've been and take pictures blah blah blah
```

but if you want to spend $20 for two dogs, 1 small fries, and two drinks... Have fun
I guess being a New Yorker I was expecting way more, Nathans and street car franks are so much better than this place.

---

clyQfTvv0wLB5hjr_CKuoA: For a hot dog place, even in Vegas, the prices are crazy. Pretty decent chili-dog. The hot dog had the right snap to it. The chili was pretty good.

I really hope that Pink's in LA is better than this, or it might be one of the most overrated places of all time.
ieczKuwZEL04ia1muauXZA: Overrated hot dogs.

ZbHNCINwksyb4gLkhTEgrA: My friend and I both got sick after eating their chili dog.. not recommended!
HzHkGPgYivHQ9PgMZ8rCDA: I enjoyed my hot dog. My friend had mini corn dogs and they made her sick.

ZbHNCINwksyb4gLkhTEgrA: My friend and I both got sick after eating their chili dog.. not recommended!
cv3x0Vsrp5UV97plgUQFnw: I was not to fond of the hot dog I ordered and the fries, I got really sick after eating there food.

---

h3m5gh5aXJTw_qTPQ2TZiA: it's not bad and it's not good.
LV6pdn92ZYqwRDrxELGA5g: Expensive and tasted really bad. I will never eat at this place if I visit Vegas again.

---

clyQfTvv0wLB5hjr_CKuoA: For a hot dog place, even in Vegas, the prices are crazy. Pretty decent chili-dog. The hot dog had the right snap to it. The chili was pretty good.

I really hope that Pink's in LA is better than this, or it might be one of the most overrated places of all time.
v6uXt6jRklmtFdLVz6i1lw: I just did not have a great experience. I didn't like the flavor of the hot dog (good snap, though) or chili. The onion rings were pretty good. The prices were crazy-high.

---

fORjH9LL0V3WhxI55yUJcw: Pretty good hot dog . They have a bunch of different hot dogs that you could get so i feel like its worth it. Everyone says its the best hot dog place and its pretty good but i wouldnt say i would CRAVE pink's hot dogs.

Definitely would come back here though...
xVtyX72oSbyj211qc2bb3A: It's an ok place to go for a quick craving bite. They can put pretty much anything you want on a hot dog. I'd go back...once every now and then.

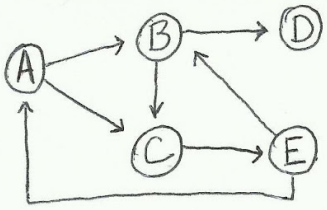
-9lxYUISvuvUxVBXvrmsPw: Thinking back the hot dogs were okay. But eating here drunk, heaven.
_Ix5nk_1h0-HMO6J-x1shg: Still not an all-around hot dog fan. Still a Pink's Hot Dog lover. And yes, the chili-cheese fries are still like heaven to me this last time around.

---

dnSfS6ejk67E9w9w_cxJKw: Almost as good as the one in Hollywood!
_84iHlOoPhR4lZHFhrjASg: It was good, but nothing too special.

I had the Planet Hollywood Dog, which was good, but nothing crazy!

Part 3



$$\hat{P} = (0.8)\begin{array}{c} \\ A \\ B \\ C \\ D \\ E \end{array}\begin{array}{c} \begin{array}{ccccc} A & B & C & D & E \end{array} \\ \begin{bmatrix} 0 & 1/2 & 1/2 & 0 & 0 \\ 0 & 0 & 1/2 & 1/2 & 0 \\ 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 \\ 1/2 & 1/2 & 0 & 0 & 0 \end{bmatrix} \end{array} + (0.2)\begin{bmatrix} 1/5 & 1/5 & 1/5 & 1/5 & 1/5 \\ 1/5 & 1/5 & 1/5 & 1/5 & 1/5 \\ 1/5 & 1/5 & 1/5 & 1/5 & 1/5 \\ 1/5 & 1/5 & 1/5 & 1/5 & 1/5 \\ 1/5 & 1/5 & 1/5 & 1/5 & 1/5 \end{bmatrix}$$

$N = 5$

$\alpha = 0.8$

$$\hat{P} = \begin{bmatrix} 0.04 & 0.44 & 0.44 & 0.04 & 0.04 \\ 0.04 & 0.04 & 0.44 & 0.44 & 0.04 \\ 0.04 & 0.04 & 0.04 & 0.04 & 0.84 \\ 0.2 & 0.2 & 0.2 & 0.2 & 0.2 \\ 0.44 & 0.44 & 0.04 & 0.04 & 0.04 \end{bmatrix}$$

Michael Gyarmathy - HW2 Part 3

$\vec{X}_0 = (\underset{A}{1}\ \underset{B}{0}\ \underset{C}{0}\ \underset{D}{0}\ \underset{E}{0})$

$\vec{X}_1 = \vec{X}_0\hat{P} = (0.04\ \ 0.44\ \ 0.44\ \ 0.04\ \ 0.04)$

$\vec{X}_2 = \vec{X}_1\hat{P} = (0.0624\ \ 0.0784\ \ 0.2384\ \ 0.2224\ \ 0.3984)$

$\vec{X}_3 = \vec{X}_2\hat{P} = (0.2349\ \ 0.2599\ \ 0.1319\ \ 0.1069\ \ 0.2663)$

$\vec{X}_4 = \vec{X}_3\hat{P} = (0.1636\ \ 0.2576\ \ 0.2551\ \ 0.1611\ \ 0.1626)$

$\vec{X}_5 = \vec{X}_4\hat{P} = (0.1308\ \ 0.1963\ \ 0.2343\ \ 0.1688\ \ 0.2698)$

...normalize...

$PR = (\underset{A}{0.1308}\ \ \underset{B}{0.1963}\ \ \underset{C}{0.2343}\ \ \underset{D}{0.1688}\ \ \underset{E}{0.2698})$

$PR(A) = 0.1308$
$PR(B) = 0.1963$
$PR(C) = 0.2343$
$PR(D) = 0.1688$
$PR(E) = 0.2698$