

# TwitNews: Ranking Tweets Using Structured Social Data



---

Chris Moghbel  
Lei Jin

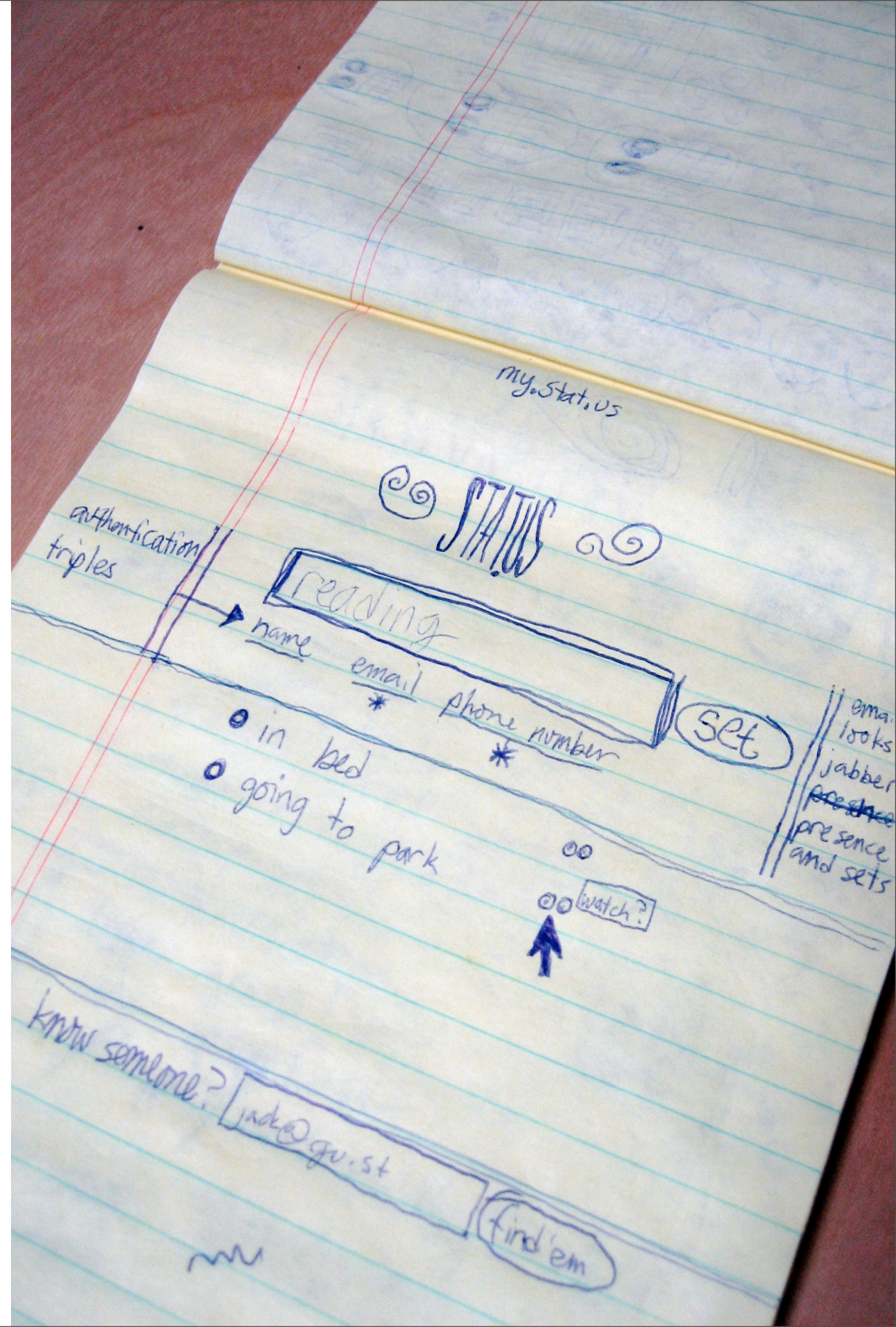


# Introduction



# The Birth of Twitter

- 🐦 Introduced publicly July 15, 2006
- 🐦 Originally designed as a means of sharing small tidbits of personal information
- 🐦 Motto: "What are you doing?"
- 🐦 Trends introduced in April 2009





# The Rise of Twitter and Microblogging

- 🐦 Invaluable tool in recent protests and revolutions in Iran, Egypt, and Tunisia
- 🐦 Current record is 7,196 tweets per second during the 2011 FIFA Women's World Cup
- 🐦 Used to spread information about various breaking news such as Michael Jackson's death





# Twitter Today

- 🐦 Grown from 400,000 tweets per quarter in 2007 to 200 million tweets a day in 2011
- 🐦 New Motto: “What’s happening?”
- 🐦 November 2010, co-founder Biz Stone mentioned, for the first time, the idea of a Twitter news service

Tweets · [Top](#) ▾

[Refine results](#) »

20 new tweets



**MsDionne83** Dionne or Dee

True story...RT [@Str8ChillenN804](#): [#inthe90s](#) u watched all da "house party" movies....lol

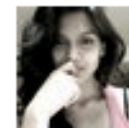
1 minute ago



**stefanoalgieri** stefano algieri

[#inthe90s](#) I was wheeling around in nothing but my spiderman undies wish I could do tha now and not get frowned upon [#idkilltobelittleagain](#)

1 minute ago



**LiveLikeRowena** Rowena Domingo

[#inthe90s](#) our social network was actually going outside to play

1 minute ago



**nlabella** nicolina labella

[#inthe90s](#) I was oblivious to the corruption in the world

1 minute ago



**Siddyboo** sidney beasley

[#inthe90s](#) things for meh weree wayyy easier [#MissMyChildhood](#)

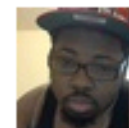
1 minute ago



**Uwe\_x007** Y.B

[#inthe90s](#) I made a valentines day for my first crush..sprayed it with my mother's perfume too

1 minute ago



**OptimusGrind\_\_** ☆Bruce Wayne☆

[#inthe90s](#) id be up every morning to catch "Bear in the Big Blue House" & "PB&J Otter"

1 minute ago



**JET\_LIFE\_KING** TheJETking

[#inthe90s](#) the realest generation was born RT if you think so

# Breaking News via Twitter

I want to harness the speed at which news propagates on Twitter to stay up to date on the latest breaking news...

...but how do I find the highest quality results from this massive influx of Tweets?

Tweets · Top ▾

Refine results »

20 new tweets



**maddoghall** maddog Hall

**Dennis Ritchie**, Creator of the "C" language and co-xreator of Unix is dead at age 70.....all programmers owe him a moment of silence.

17 hours ago

Retweeted 100+ times



**Yardboy** Yardboy

The first few comments of the Wired article about **Dennis Ritchie's** passing are pretty good. [vurl.me/GVYI](http://vurl.me/GVYI)

5 minutes ago



**washingtonpost** The Washington Post

Creator of C programming language and Unix dies at 70:

[wapo.st/qraRTx](http://wapo.st/qraRTx)

10 minutes ago



**sfranklin1717** Skip Franklin

Goodbye, Mr. **Ritchie**, you will be missed. But the C legacy will live on for a good long time. [sgp.cm/6d3e75](http://sgp.cm/6d3e75)

13 minutes ago



**pdp7** Drew Fustini

Unix & C were products of pure research, started w/ equipment bought on a promise that they'd develop a word processor

[wired.com/wiredenterpris...](http://wired.com/wiredenterpris...)

37 minutes ago



**nitashatiku** Nitasha Tiku

The comments written in C on **Dennis Ritchie's** obituary are pretty adorable [wired.com/wiredenterpris...](http://wired.com/wiredenterpris...)

39 minutes ago



**rixstepnews** Rixstep News

**#dmr** created C not out of curiosity but because B hung the 1st Unix system. [arstechnica.com/business/news/...](http://arstechnica.com/business/news/...)

39 minutes ago

# Problem: Finding Relevant Information

---

There's a lot of noise on Twitter...



Is there some way we can automatically find breaking news and filter out the most relevant content?



# Outline

---

 Related Work

 Framework

 Ranking Algorithms

 Results

 Conclusion





# Outline

---

## **Related Work**

## Framework

## Ranking Algorithms

## Results

## Conclusion

# TrustRank

---

$$TR(p_i) = d \cdot \sum_j TR(p_j) / c_j + b_i$$
$$b_i = \begin{cases} (1-d) / N_T & \text{if } p_i \text{ is trusted} \\ 0 & \text{otherwise} \end{cases}$$

- 🐦 Generalization of PageRank formula developed by Page and Brin
- 🐦 Solves problems such as crawler trap by only randomly jumping to pages within a trusted set



# TwitRank: Extracting and Ranking Relevant Tweets For News Events

---

- 🐦 Similar project regarding finding breaking news from within Twitter data
- 🐦 Implementation differs - utilizes machine learning and human involvement in solution
- 🐦 Determined that work was inconclusive

# Topical Semantics of Twitter Links

- 🐦 Retweets provide a better indication of topical relevance than follower counts
  - 🐦 Retweets can be considered as votes of relevance
- 

## An Empirical Study on Learning to Rank of Tweets

- 🐦 URL links are good indications of topical relevance





# Outline

---

 Related Work

 **Framework**

 Ranking Algorithms

 Results

 Conclusion

# Tweet Speak: RT @ #!

---

- 🐦 A Tweet is a 140 character limited snippet that allows users to express comments to the public and exchange information. Also known as a microblog.
- 🐦 “RT” or “Retweeting” a Tweet allows users to share that Tweet with their followers.
- 🐦 “#” or “Hashtags” are symbol initiated keywords that mark specific topics in a Tweet.
- 🐦 Verified users are Twitter users who have had their accounts manually verified by Twitter in order to certify their accounts as authentic and trustworthy.



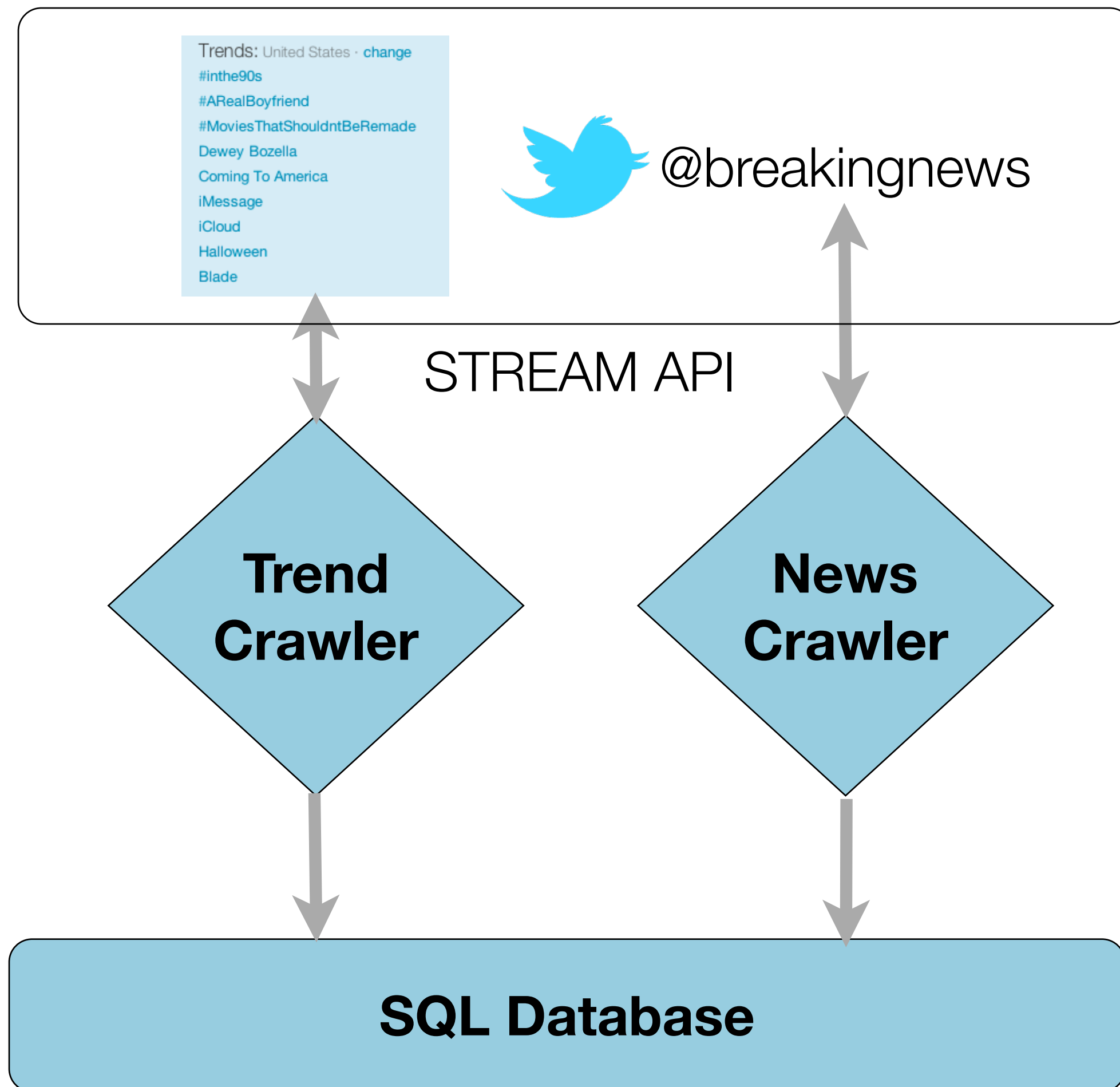
# Twitter Trends

---

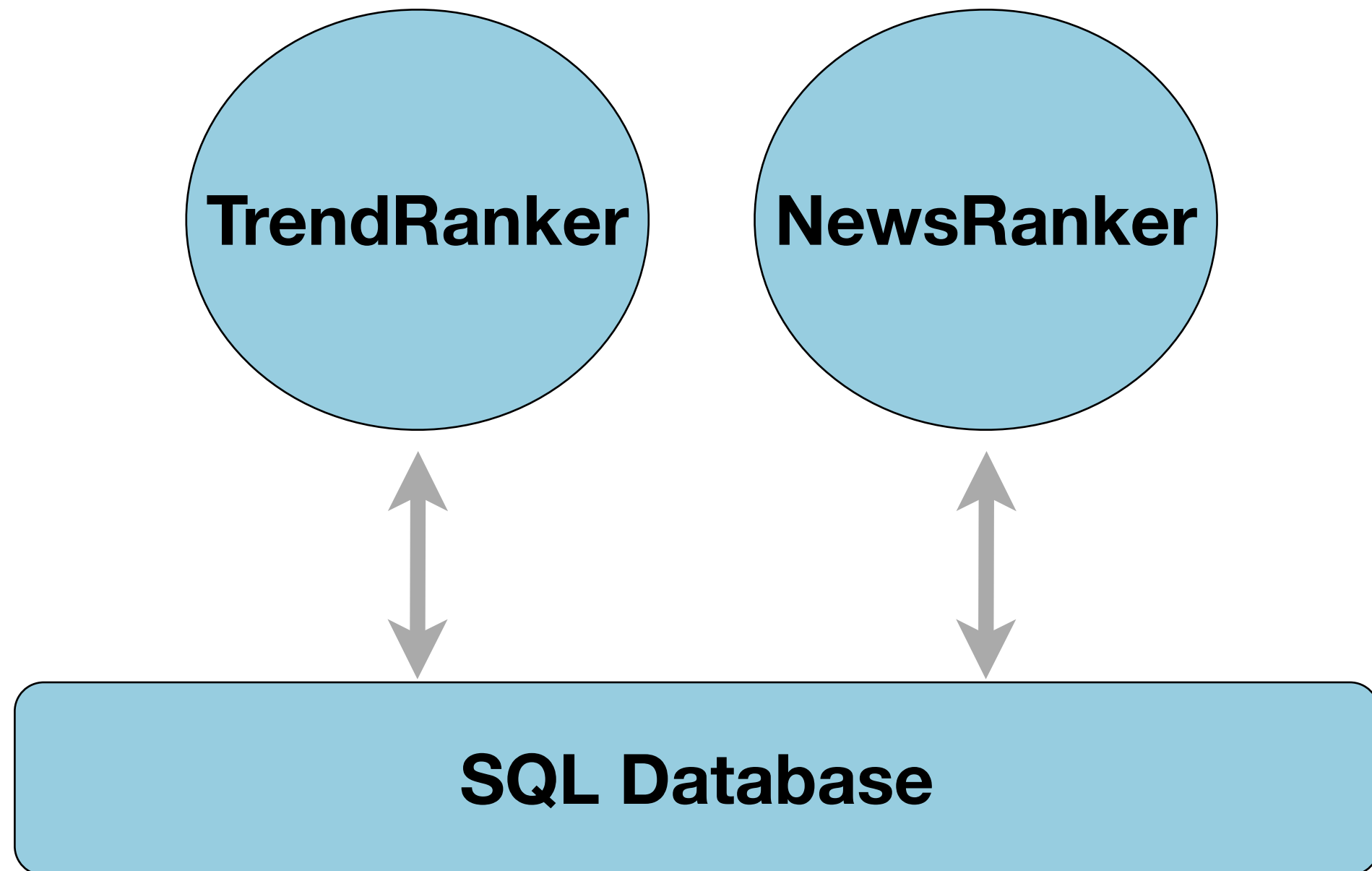


Twitter surfaces 10 “Trends”, which correspond to the current most popular keywords being used on Twitter.

Trends are often used to aggregate user submissions on a given topic.









# Outline

---

 Related Work

 Framework

 **Ranking Algorithms**

 Results

 Conclusion

# A Reminder...

---

$$TR(p_i) = d \cdot \sum_j TR(p_j) / c_j + b_i$$

$$b_i = \begin{cases} (1 - d) / N_T & \text{if } p_i \text{ is trusted} \\ 0 & \text{otherwise} \end{cases}$$

TrustRank

# TrustRank --> Naive TwitNews Ranking

---

$$RANK(T_i) = \alpha \cdot \log \left( \frac{\sum rt_i}{RT} \right) + \beta \cdot v_i$$

- 🐦 Verified Users are equivalent to a trusted source
- 🐦 Retweets are considered votes of confidence, and we equate the sum of retweets to sum of TrustRank from all in-links in the TrustRank



# TwitNews Ranking Algorithm

---

$$RANK(T_i) = \alpha \cdot \log \left( \frac{\sum rt_i}{RT} \right) + \beta \cdot v_i + \gamma \cdot l_i + \delta \cdot \log \left( \frac{f_i}{F} \right)$$

$rt_i$  = A retweet of  $T_i$

$f_i$  = Number of followers of the tweeter, at the time of the tweet

$RT$  = The maximum number of retweets, limited to 101 by the API

$F$  = The number of followers of the most followed user on Twitter

$$\alpha + \beta + \gamma + \delta = 1$$

$$v_i = \begin{cases} 1 & \text{if the tweeter is verified} \\ 0 & \text{otherwise} \end{cases}$$
$$l_i = \begin{cases} 1 & \text{if the tweet contains a link} \\ 0 & \text{otherwise} \end{cases}$$

# Integrating Our Algorithm with Existing IR Models

---

- 🐦 Created simple Boolean model for tweets based on keyword matching.
- 🐦 Defined keywords as any proper nouns parsed from the Tweet text.
- 🐦 Combined simple Boolean model with existing TwitRank formula to create a more generalized ranking.
- 🐦 Existing IR model matches Tweets with a given query, and TwitRank refines the results by ordering on relevance.

# Spam Detection and Other Improvements

---

- 🐦 Penalize rank based on number of tokens matching a list of “bad words” such as adult language
- 🐦 Penalize rank of Tweets with an inordinate number of Trend names included within Tweet
- 🐦 Eliminate “stop words” before parsing keywords to improve Boolean matching model.



# Outline

---

 Related Work

 Framework

 Ranking Algorithms

 **Results**

 Conclusion



# Experiment 1: Ranking Tweets for Trends

---

- 🐦 Crawled current trends from Twitter.
- 🐦 Crawled tweets for each trend downloaded.
- 🐦 Applied ranking algorithm plus spam detection to rank tweets for each trend.
- 🐦 Data set of  $> 1.5$  Million Tweets

# Do a Barrel Roll!



User	Verified?	Followers	Tweet	Link Domain
dmbmeg	No	440	just realized "do a barrel roll" is trend- ing and I just tweeted about Justin Bieber. Please don't unfollow me. I'll do better next time.	None
brunnoleonardo	No	724	Do a Barrel Roll! ?	None
jonalammers	No	131	RT @lisajorinde: RT @NinaSylvie: hahahaa typ in bij google do a barrel roll , je schrikt je dood	None
xddlovatosmile	No	331	Ho digitato "do a barrel roll" su Google,google se ne va di testa ogni tanto.AHAHAHAHAHAH	None
vadro	No	23	RT @Nesttor77: Entren a Google y pongan do a barrel roll! Jajajaja mola mucho xD	None
JeromeParadis	No	2669	Nice Easter egg! Re: Do A Barrel Roll! In Google! Right Now! via @techcrunch <a href="http://t.co/mrgOAgMh">http://t.co/mrgOAgMh</a>	techcrunch.com
DoweyBaothman	No	117	RT @MishaelSaad: THINGS YOU SHOULDNT DO: Drugs.	None
chellyybean	No	224	umm wtf...i want my google to do a barrel roll. WHY WON'T IT WORK?!	None
LizaCRVG	No	118	@JonataanW_OFC - Abra a pagina inicial do google, e procure: do a barrel roll e me diz o que achou =)	None
GlitterMonseterx	No	831	Going on a laptop JUST to search up " Do a Barrel Roll "	None

Top 10 Tweets for trend “DO A BARREL ROLL” using the Timestamp method.

User	Verified?	Followers	Tweet	Link Domain
mashable	Yes	2,568,170	"Do a Barrel Roll" on Google, and You Won't Be Disappointed - <a href="http://t.co/pqaDJ4Fi">http://t.co/pqaDJ4Fi</a>	mashable.com
Alyssa_Milano	Yes	1,828,268	Go to <a href="http://t.co/5QlfhQwX">http://t.co/5QlfhQwX</a> & type "do a barrel roll".The results will entertain you. / via @BuzzFeed	google.com
Kotaku	Yes	100,767	Google "Do a Barrel Roll" Right Now <a href="http://t.co/OJMZZMyj">http://t.co/OJMZZMyj</a>	kotaku.com
jennydeluxe	Yes	420,292	Everyone do this NOW rt @ryeclifton Google "do a barrel roll" via @lindseyweber	None
threadless	Yes	1,672,228	Type "do a barrel roll" into <a href="http://t.co/AGwbxxEv">http://t.co/AGwbxxEv</a> . When your screen stops spinning, request a reprint of this - <a href="http://t.co/FsISaFwT">http://t.co/FsISaFwT</a>	google.com
toptweets_es	Yes	277,021	RT @jbrownridge: 1) Go to <a href="http://t.co/4fy4lVeH">http://t.co/4fy4lVeH</a> 2) Search for "do a barrel roll"	google.com
toptweets_es	Yes	277,020	RT @abrmorales: 1. Entra a <a href="http://t.co/ANAGfAOy">http://t.co/ANAGfAOy</a> 2. Escribe: do a barrel roll 3. Pulsa enter.	google.es
Scobleizer	Yes	215,917	RT @mashable: "Do a Barrel Roll" on Google, and You Won't Be Disappointed - <a href="http://t.co/pqaDJ4Fi">http://t.co/pqaDJ4Fi</a>	mashable.com
arrington	Yes	99,944	RT @Techmeme: Do A Barrel Roll! In Google! Right Now! (@mjburnsy / TechCrunch) <a href="http://t.co/b2suSooM">http://t.co/b2suSooM</a> <a href="http://t.co/WZyncXwx">http://t.co/WZyncXwx</a>	techcrunch.com
Econsultancy	Yes	74,588	A little fun! RT @lakey: The mother of all Google tricks... try entering the search query: "do a barrel roll" <a href="http://t.co/6Sr5LQMw">http://t.co/6Sr5LQMw</a>	google.com

Top 10 Tweets for trend “DO A BARREL ROLL” using the TwitNews ranking algorithm.



DANIEL  
CRAIG

RALPH  
FIENNES

JAVIER  
BARDEM

# SKYFALL

007<sup>F</sup>



COLUMBIA  
PICTURES

User	Verified?	Followers	Tweet	Link Domain
KayBee0311	No	58	"@BreakingNews: Producers say new James Bond film will be called 'Skyfall,' star Daniel Craig, Javier Bardem - AP" Yay can't wait!!	None
MalcomIngram	No	11,653	James Bond is 007 in SKYFALL?!?! Worst title ever Better one off the top of my head James Bond is 007 in TIME EQUALS DEATH #BetterBondTitles	None
Diianamedez	No	59	Novo filme do James Bond :) Aiii Daniel deli- iiciliaaa :P	None
CajunBrooke	No	357	New James Bond movie coming out, but not until November 2012. Can I buy tickets now?	None
NorbertKuehn	No	52	RT @HuffingtonPost: Breaking updates: All the new James Bond film details as they happen! <a href="http://t.co/6ViOiQ2K">http://t.co/6ViOiQ2K</a>	huffingtonpost.com
digitalspybrk	No	3,887	Skyfall' plot sees MI6 "under attack", James Bond loyalty to M tested <a href="http://t.co/dITRYmth">http://t.co/dITRYmth</a>	digitalspy.com
digitalspyent	No	5,013	Skyfall' plot sees MI6 "under attack", James Bond loyalty to M tested <a href="http://t.co/GSCFgT1R">http://t.co/GSCFgT1R</a>	digitalspy.com
lincingcom	No	56	New James Bond Film is Officially Titled 'Skyfall'; Mendes and Producers Update Casting and Plot Details <a href="http://t.co/TugXWONC">http://t.co/TugXWONC</a>	showbiz.lincing.com
Phildaddy007	No	50	Well now Daniel Craig is now a trending topic over James Bond... That works, I'll go with that... he is the #BestBond	None
Khusomir	No	130	Enough with James Bond, such a boring series...	None

Top 10 Tweets for trend “James Bond” using the Timestamp method.

User	Verified?	Followers	Tweet	Link Domain
BBCWorld	Yes	1,182,858	Next James Bond film will be titled Skyfall, producers announce. More soon <a href="http://t.co/jTltwN70">http://t.co/ jTltwN70</a>	bbc.co.uk
AP	Yes	593,789	James Bond returns next year in "Skyfall," starring Daniel Craig and Javier Bardem. It's 007's 23rd movie: <a href="http://t.co/5nKhsM1C">http:// t.co/5nKhsM1C</a> -EF	hosted.ap.org
BreakingNews	Yes	3,225,044	Google Producers say new James Bond film will be called 'Skyfall,' star Daniel Craig, Javier Bardem - AP	None
HuffingtonPost	Yes	1,345,737	Breaking updates: All the new James Bond film details as they happen! <a href="http://t.co/6ViOiQ2K">http://t.co/ 6ViOiQ2K</a>	huffingtonpost.com
BBCNews	Yes	379,179	Next James Bond film will be titled Skyfall, producers announce. More soon <a href="http://t.co/S4kmCo2G">http://t.co/ S4kmCo2G</a>	bbc.co.uk
holacom	Yes	157,398	Comienza el rodaje de 'Skyfall' el nuevo filme de James Bond, con Daniel Craig y Javier Bardem como protagonistas: <a href="http://t.co/g1LW82bl">http://t. co/g1LW82bl</a>	noticias.hola.com
ParisMatch	Yes	53,248	James Bond tombera du ciel: Lors d'une conférence de presse, le titre des 23e aventures du célèbre agent secret ... <a href="http://t.co/DXGY0ZTB">http://t.co/ DXGY0ZTB</a>	parismatch.com
NoticiasMVS	Yes	34,532	La nueva película de James Bond se llamará 'Skyfall' <a href="http://t.co/XXMDD0Jm">http://t.co/XXMDD0Jm</a>	noticiasmvs.com
MetroUK	Yes	18,863	James Bond film title announced as Skyfall at launch with Daniel Craig <a href="http://t.co/EL9rePnJ">http://t.co/ EL9rePnJ</a>	metro.co.uk
YahooOmgUk	Yes	6,555	The James Bond/Daniel Craig news WE'D been waiting for <a href="http://t.co/koAiVBFw">http://t.co/koAiVBFw</a>	uk.omg.yahoo.com

Top 10 Tweets for trend "James Bond" using the TwitNews ranking algorithm.

# Experiment 2: Finding and Ranking Tweets Related to News

---

- 🐦 Crawled latest tweets from @breakingnews
- 🐦 Used these tweets as example queries
- 🐦 Crawled tweets with matching keywords from Twitter
- 🐦 Applied Boolean model combined with TwitNews ranking algorithm to find tweets for a given “query” and rank them.
- 🐦 Data set of > 2 Million Tweets.

User	Verified?	Followers	Tweet	Link Domain
mdulian	No	786	ESPN is reporting that it looks like Joe Paterno will be gone! RT @Elliott Sadler: What is Penn State goin... (cont) <a href="http://t.co/HRXHgBOI">http:// t.co/HRXHgBOI</a>	None
1DSheeranBiebs	No	1251	@AwwMusic when I have credit and I'm with Joe next I'll ring you and you can talk to him hahahhaaa	None
LordFestusIII	No	52	RT @speakz: RIP Joe Fraizer.Ali called you an uncle tom & a paper champion in build up to your 1st fight...You responded by beating his ...	None
NewsDangler	No	52	I'm at Nyack Beach State Park (698 N Broadway, Upper Nyack) w/ 2 others [pic]: <a href="http://t.co/HXEJ5Dho">http://t.co/HXEJ5Dho</a>	<a href="https://foursquare.com">https://foursquare.com</a>
jOleary20	No	170	Hope everything works out for Penn State @ItsMeSnitchez10	None
gonzalezmam	No	2128	Penn State's Paterno cancels briefing amid scandal <a href="http://t.co/ajjYsbZ9">http://t.co/ajjYsbZ9</a>	<a href="http://reuters.com">http://reuters.com</a>
freehan11	No	542	This scandal at Penn State is truly disgust- ing. No one ever learns that coverups al- ways come uncovered. God Bless the vic- tims.	None
avalam00	No	21	RT @mark may: The next AD at Penn State should be Matt Millen	None
Bojandles	No	34	Penn State should get the death penalty.. Sick!	None
DatDudeNickT93	No	48	Guys, Real Joe Pa has been dead now for some time. They simply are propping his corpse up in the booth on GameDays #WeekendAtBernies Style	None

Top 10 Tweets for query “Penn State said to be planning football coach Joe Paterno's departure, sources say - @NYTimes <http://t.co/1KAsWAZu>” using the Timestamp method.



User	Verified?	Followers	Tweet	Link Domain
kimtee	No	103	"@BreakingNews: Penn State said to be planning football coach Joe Paterno's de- parture, sources say - @NYTimes <a href="http://t.co/sOCyq3pg">http://t.co/sOCyq3pg</a> WHAT.	nytimes.com
JustRizz	No	165	RT @SportsCenter: Breaking News: The New York Times: Penn State is planning head coach Joe Paterno's exit <a href="http://t.co/K5AfLhqQ">http://t.co/K5AfLhqQ</a>	nytimes.com
MsMoo_Pow	No	141	RT @SportsCenter: Breaking News: The New York Times: Penn State is planning head coach Joe Paterno's exit <a href="http://t.co/K5AfLhqQ">http://t.co/K5AfLhqQ</a>	nytimes.com
BrwnEyeGemini	No	151	@2 shay my nigga The New York Times: Penn State is planning head coach Joe Pa- terno's exit <a href="http://t.co/9DigGXjm">http://t.co/9DigGXjm</a> ji that ish right there	nytimes.com
WrnrG	No	26	Report: Penn State planning Joe Pa- ternos exit amid sexual-abuse scan- dal - College Football News — FOX Sports on <a href="http://msn.foxsports.com/collegefootball/story/Penn-State-planning-Joe-Paterno-exit-amid-sexual-abuse">http://msn.foxsports.com/collegefootball/story/Penn-State-planning-Joe-Paterno-exit-amid-sexual-abuse</a> - MSN: <a href="http://t.co/IQSzSoBm">http://t.co/IQSzSoBm</a>	<a href="http://msn.foxsports.com">msn.foxsports.com</a>
nthartness6	No	605	RT @SportsCenter: Breaking News: The New York Times: Penn State is planning head coach Joe Paterno's exit <a href="http://t.co/K5AfLhqQ">http://t.co/K5AfLhqQ</a>	nytimes.com
jcr4522	No	60	SportsCenter: Breaking News: The New York Times: Penn State is planning head coach Joe Paterno's exit <a href="http://t.co/rn7Yfz8M">http://t.co/rn7Yfz8M</a>	nytimes.com
DHarguth	No	155	RT @SportsCenter: Breaking News: The New York Times: Penn State is plan- ning head coach Joe Paterno's exit url- <a href="http://t.co/K5AfLhqQ">http://t.co/K5AfLhqQ</a>	nytimes.com
D2Lo	No	41	RT @SportsCenter: Breaking News: The New York Times: Penn State is planning head coach Joe Paterno's exit <a href="http://t.co/K5AfLhqQ">http://t.co/K5AfLhqQ</a>	nytimes.com
final118	No	64	RT @USATODAY: Penn State cancels Joe Paterno's scheduled news conference <a href="http://t.co/QuOhFXr8">http://t.co/QuOhFXr8</a>	<a href="http://content.usatoday.com">content.usatoday.com</a>

Top 10 Tweets for query “Penn State said to be planning football coach Joe Paterno's departure, sources say - @NYTimes <http://t.co/1KAsWAZu>” using the Boolean model.

User	Verified?	Followers	Tweet	Link Domain
USATODAY	Yes	189,806	Report: Penn State planning Joe Paterno's exit <a href="http://t.co/zVEhlm3s">http://t.co/zVEhlm3s</a>	content.usatody.com
USATODAY	Yes	189,804	Penn State cancels Joe Paterno's scheduled news conference <a href="http://t.co/QuOhFXr8">http://t.co/QuOhFXr8</a>	content.usatody.com
michaelombardi	Yes	133,191	According to the NY Times Penn State is planning for Joe Paterno's exit. <a href="http://t.co/gT3volwC">http://t.co/gT3volwC</a> These is a horrendusly sad story...	nytimes.com
YahooSports	Yes	40,747	Paper: Penn State planning Joe Paterno's exit <a href="http://t.co/KmBM17y2">http://t.co/KmBM17y2</a>	rivals.yahoo.com
ESPNNewYork	Yes	33,045	Penn State Nittany Lions call off Joe Paterno's news conference <a href="http://t.co/Z0sVeYRT">http://t.co/Z0sVeYRT</a>	espn.go.com
vleach44	Yes	16,125	RT @SportsCenter: Breaking News: The New York Times: Penn State is planning head coach Joe Paterno's exit <a href="http://t.co/DGsPU6zT">http://t.co/DGsPU6zT</a>	nytimes.com
CBSi	Yes	10,712	Report: Penn State planning Joe Paterno's exit - <a href="http://t.co/BRkBG5WD">http://t.co/BRkBG5WD</a>	eye-on-collegefootball.blogs.cbssports.com
OpieRadio	No	105,719	YAWN! knew this 18hrs ago! BELIEVE RT @BreakingNews Penn State planning football coach Joe Paterno's departure @NYTimes <a href="http://t.co/9VaXtLXk">http://t.co/9VaXtLXk</a>	nytimes.com
evertus	No	50,069	Penn State president cancels Joe Paterno's press conference (morningcall): Share With Friends: — — Top News - ... <a href="http://t.co/7KbKSxFy">http://t.co/7KbKSxFy</a>	mcall.com
hackhype	No	29,468	Report: Penn State planning coach Paterno's exit: Joe Paterno's tenure as head coach of Nittany Lions is likely ... <a href="http://t.co/lyXotQWN">http://t.co/lyXotQWN</a>	nfl.com

Top 10 Tweets for query “Penn State said to be planning football coach Joe Paterno's departure, sources say - @NYTimes <http://t.co/1KAsWAZu>” using the combined Boolean and TwitNews ranking algorithm.



# Outline

---

 Related Work

 Framework

 Ranking Algorithms

 Results

 **Conclusion**

# Recap

---

- 🐦 Developed ranking algorithm for Tweets that takes into account structured social data
- 🐦 Performed much better than timestamp or simple IR methods
- 🐦 Can be combined with existing IR methods to improve search in microblogging systems

Thanks!

Q&A