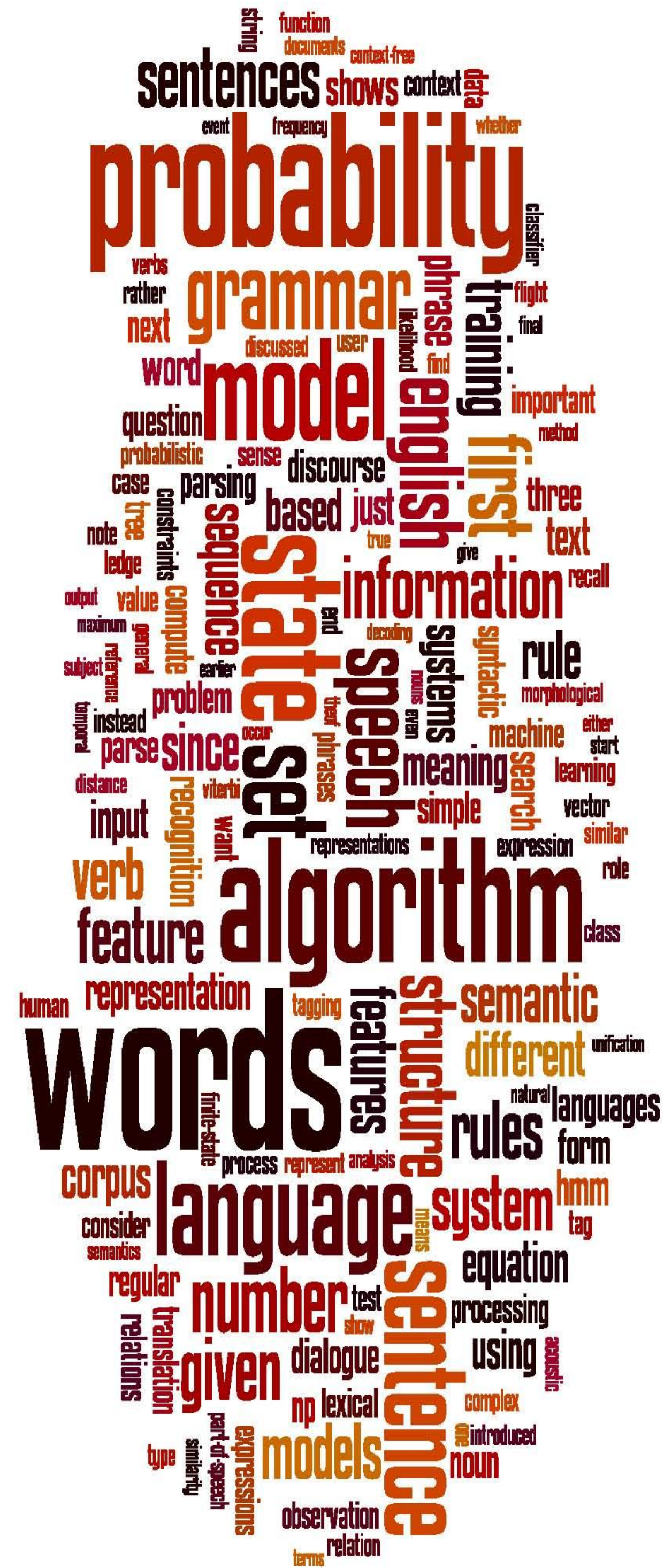




CS+Social Good Section

1/20/2016



Sentiment Analysis

What is Sentiment Analysis?



Positive or negative movie review?



- unbelievably disappointing



- Full of zany characters and richly applied satire, and some great plot twists



- this is the greatest screwball comedy ever filmed



- It was pathetic. The worst part about it was the boxing scenes.



Google Product Search



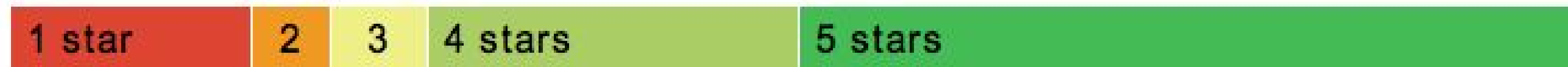
HP Officejet 6500A Plus e-All-in-One Color Ink-jet - Fax / copier / printer / scanner

\$89 online, \$100 nearby ★★★★★ **377 reviews**

September 2010 - Printer - HP - Inkjet - Office - Copier - Color - Scanner - Fax - 250 sh

Reviews

Summary - Based on 377 reviews



What people are saying

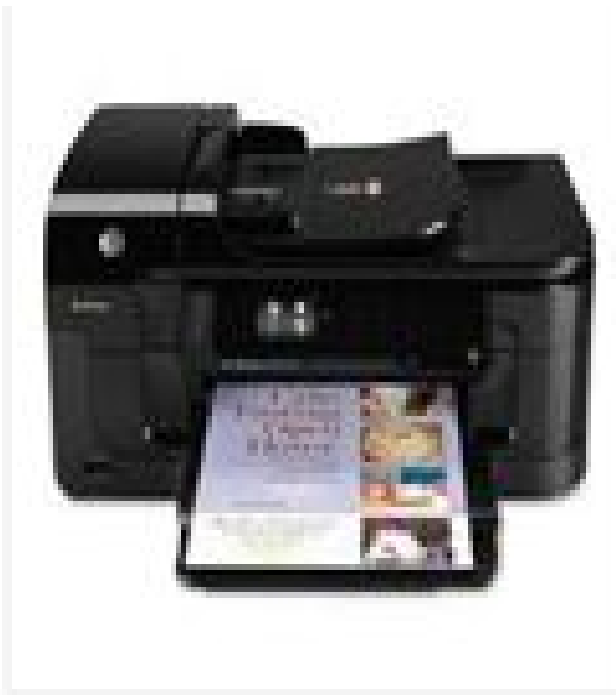
ease of use	<div><div></div><div></div><div></div><div></div><div></div></div>	"This was very easy to setup to four computers."
value	<div><div></div><div></div><div></div><div></div><div></div></div>	"Appreciate good quality at a fair price."
setup	<div><div></div><div></div><div></div><div></div><div></div></div>	"Overall pretty easy setup."
customer service	<div><div></div><div></div><div></div><div></div><div></div></div>	"I DO like honest tech support people."
size	<div><div></div><div></div><div></div><div></div><div></div></div>	"Pretty Paper weight."
mode	<div><div></div><div></div><div></div><div></div><div></div></div>	"Photos were fair on the high quality mode."
colors	<div><div></div><div></div><div></div><div></div><div></div></div>	"Full color prints came out with great quality."



Bing Shopping

HP Officejet 6500A E710N Multifunction Printer

[Product summary](#) [Find best price](#) **Customer reviews** [Specifications](#) [Related items](#)



\$121.53 - \$242.39 (14 stores)

☐ Compare

Average rating  (144)

		(55)
		(54)
		(10)
		(6)
		(23)
		(0)

Most mentioned

Performance		(57)
Ease of Use		(43)
Print Speed		(39)
Connectivity		(31)
More ▼		

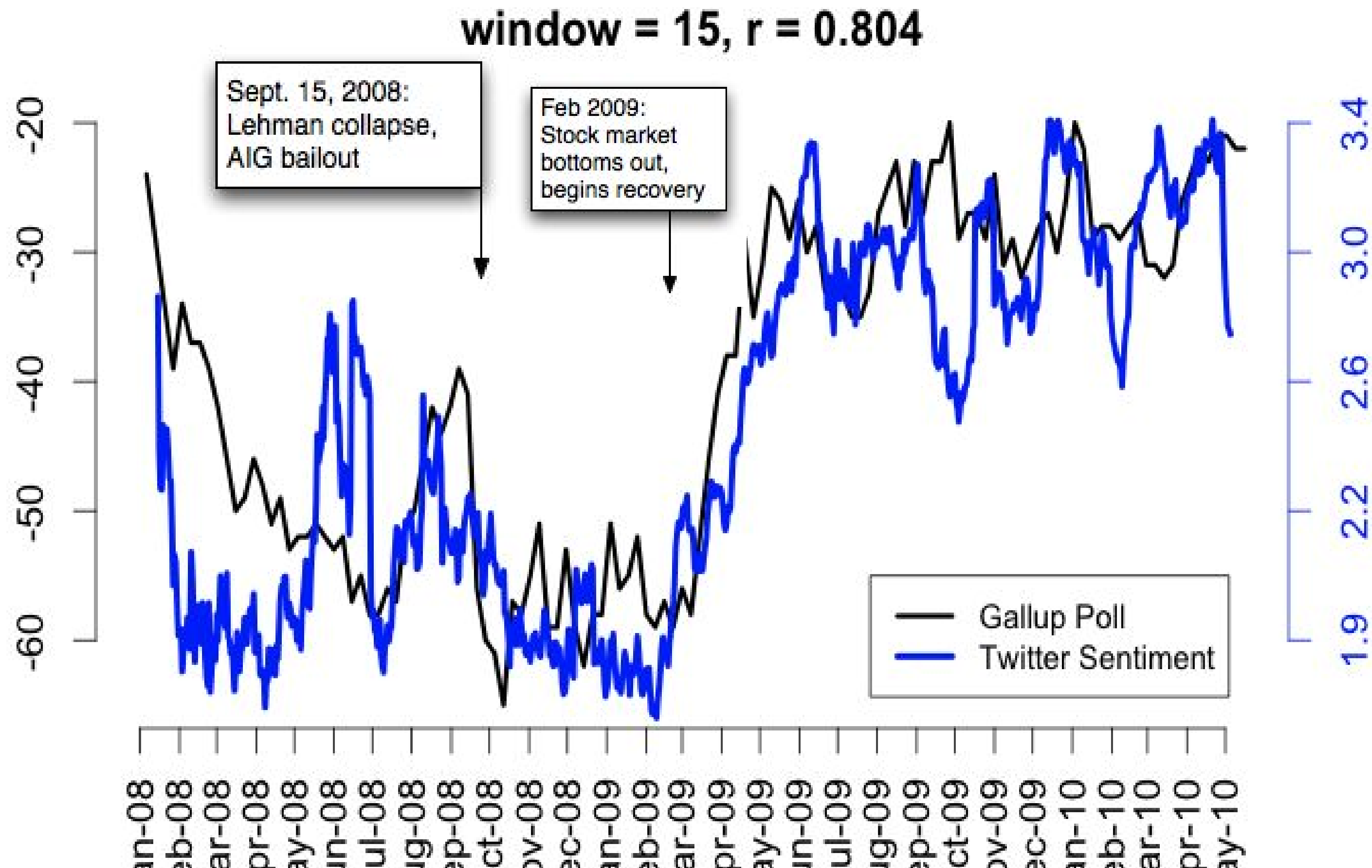
Show reviews by source

- Best Buy (140)
- CNET (5)
- Amazon.com (3)



Twitter sentiment versus Gallup Poll of Consumer Confidence

Brendan O'Connor, Ramnath Balasubramanian, Bryan R. Routledge, and Noah A. Smith.
2010. From Tweets to Polls: Linking Text Sentiment to Public Opinion Time Series. In ICWSM-2010





Target Sentiment on Twitter

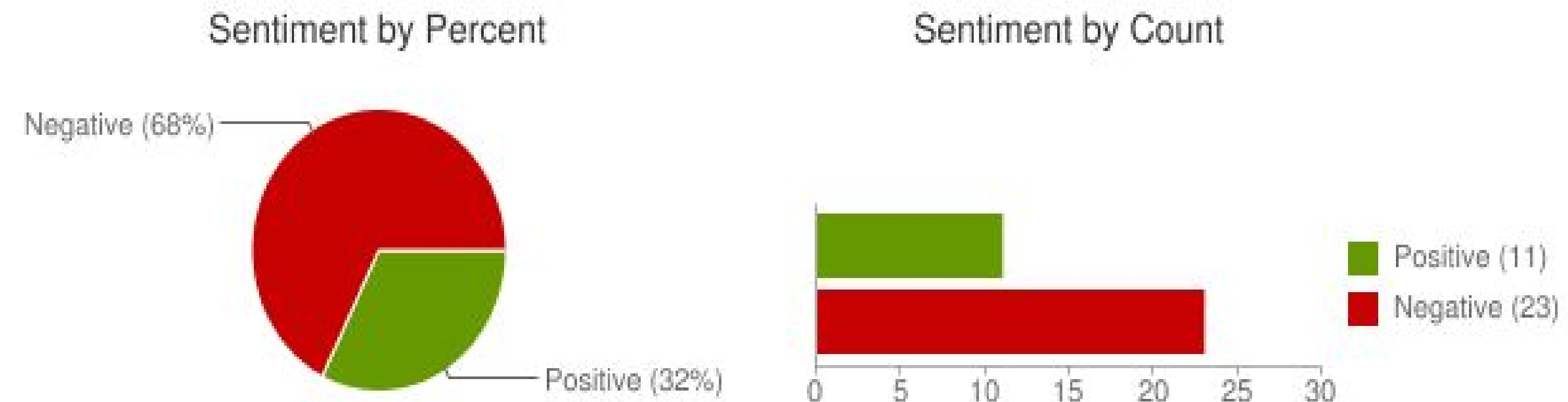
- Twitter Sentiment App

- Alec Go, Richa Bhayani, Lei Huang.
2009. Twitter Sentiment Classification
using Distant Supervision

Type in a word and we'll highlight the good and the bad

[Save this search](#)

Sentiment analysis for "united airlines"

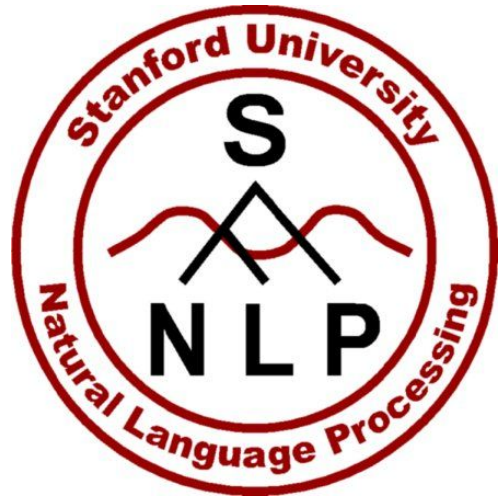


iljacobson: OMG... Could **@United airlines** have worse customer service? W8g now 15 minutes on hold 4 questions about a flight 2DAY that need a human.
Posted 2 hours ago

12345clumsy6789: I hate **United Airlines** Ceiling!!! Fukn impossible to get my conduit in this damn mess! ?
Posted 2 hours ago

EMLandPRGbelgiu: EML/PRG fly with Q8 **united airlines** and 24seven to an exotic destination. <http://t.co/Z9QloAjF>
Posted 2 hours ago

CountAdam: FANTASTIC customer service from **United Airlines** at XNA today. Is tweet more, but cell phones off now!
Posted 4 hours ago



Sentiment analysis has many other names

- Opinion extraction
- Opinion mining
- Sentiment mining
- Subjectivity analysis



Why sentiment analysis?

- *Movie*: is this review positive or negative?
- *Products*: what do people think about the new iPhone?
- *Public sentiment*: how is consumer confidence? Is despair increasing?
- *Politics*: what do people think about this candidate or issue?
- *Prediction*: predict election outcomes or market trends from sentiment



Today's Workshop: Sentiment Analysis



The Problem




War_Reporter @War_Reporter_ · Jan 10

Refugees not welcome. #RefugeesNotWelcome. #Germany





The Problem



Donald J. Trump ✓
@realDonaldTrump

⚙️ [Follow](#)


Refugees from Syria are now pouring into our great country. Who knows who they are - some could be ISIS. Is our president insane?

RETWEETS





17,078

LIKES

28,130



5:54 AM - 17 Nov 2015





Today's Task

Given a set of tweets about Syrian refugees, ISIS, and terror, can we classify hateful sentiment from helpful sentiment?



Why does this matter?

Classifying sentiment allows us to build:

- Tools that filter harmful content from the browser
- Bots that automatically respond to hateful tweets with educational resources
- Metrics on demographics of anti-refugee actors to inform resistance and education efforts



Let's Get Started!

Check us out on GitHub! <https://github.com/cs4good/social-good-106-section>



CS 106 Social Good Section

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