Module 4

Apple and Google products
Twitter Sentiment Analysis Classifier

Business Problem

- This analysis aims to build NLP binary classifier to analyze positive, negative and neutral Twitter sentiment about Apple and Google products.

What is Twitter?

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What is Sentiment Analysis?

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Criteria
Binary Classification Problem

- NLP techniques
- Models
- Scores

Dataset

- Provided through DataWorld website.
- 9093 entries, spread on 3 columns.
- Tweets expressed positive, negative, or no emotion towards products branded Apple and Google.
- Need of cleaning

RESULTS
Text Analysis

- APPLE POSITIVE TWEETS: SXSW conference, pop up stores, iPad 2, iPhonedesign, case, app, free.

- APPLE NEGATIVE TWEETS: SXSW conference battery, button, design, headaches, tapworthy, fascist.

sxsw
mention
ipad
iphone
link
apple
store
austin
app
rt
popup
new
time
temporary
launch
downtown
today
opening
win
begin
via
come
going
good
ipad2
shop
cool
great
love
people
one
dont
awesome
line
first
want
case
design
sxswi
need
make
pop
smart
technology
check
week
marketing
day
thank
video
set
take
look
know
free
amp
quotapple
open
really
game
next
thing
time
got
tech
schooldevice
conferencesquot
itunes
photo
big
event
show
gets
must
giving
holler
winning
nice
tomorrow
attendees
everyone
already
congress
available
sold
android
buy
last
tonight
someone
friend
booth
use
social
live
expert
detail
talk
hot
back
book
still
life
interactive
tasting
using
theres
uberguide
charger
person
laptop
bought
session
temp
heard
right
anyone
getting
see
go
im
year
first
want
tech
schooldevice
rock
lot
keep
gran
music
work
party
pretty
cant
well
dont
line
tech
downtown
got
today
apple
store
app
austin
mention
link
iphone
ipad
sxsw
ipad2
people
time
temporary
launch
new
rt
austin
look
headaches
thing
blackberry
company
app
apple
need
ipad2
quotapple
go
see
swisher
come
digital
hate
every
tweet
pretty
may
wait
3g
forward
first
back
day
best
photo
tablet
didnt
heard
button
cant
someone
classiest
dont
people
fail
money
live
make
elegant
talk
still
doesnt
americaquot
battery
good
nothing
think
autocorrect
yet
via
instead
getting
weekend
know
amp
really
even
novelty
delegates
tapworthy
im
among
quot
store
fades
design
say
want
content
one
going
line
long
japan
fascist
take
already
call
two
users
update
taking
love
enchantment
bit
around
guess
technology
hour
temp
note
mobile
coming
thank
fucking
tweeting
work
give
holding
hey
may
2quot
weird
temporary
u
fast
popup
twitter
gave
relief
phone
sxswi
session
use
suck
panel
release
stream
someone
great
always
upgrade
enough
yes
panel
camera
fipboard
last
fix
dillon
morning
stupid
tmobile
big
white
hope
feel
screen
photo
release
stream
work
panel
fast
twitter
popup
gave
relief
phone
sxswi
time
rt
use
suck
session
fipboard
camera

RESULTS
Text Analysis

- GOOGLE POSITIVE TWEETS: SXSW conference, network, panel, doodle, android and maps,

- GOOGLE NEGATIVE TWEETS SXSW, fail, network, circle, launch, business, maps, location, service, social, bing and android.

google
sxsw
mention
link
android
circle
rt
social
map
new
network
called
marissa
app
today
party
time
user
phone
people
good
search
panel
around
austin
best
traffic
amp
mobile
great
check
saving
cool
excited
awesome
world
major
mayer
possibly
launch
quotgoogle
sxswi
using
product
interactive
digital
project
photo
physical
going
via
team
come
place
look
see
free
hotpot
day
award
choice
love
route
street
big
bing
next
use
thank
called
network
fun
fast
future
yes
engine
tech
navigation
brain
foursquare
market
feature
stuff
super
tweetsout
marissagoogle
speaksquot
geek
lot
win
talk
checkin
really
location
preview
event
others
got
80s
web
nice
still
session
ranking
usage
thing
info
looking
one
3d
coming
drink
make
art
belinsky
doodle
food
maggie
start
show
idea
iphone
hot
qagb
twitter
tweets
building
listening
pretty
know
made
view
million
interesting
every
version
think
year
right
game
tonight
far
real
happy
mark
amazing
work
share
want
quotthink
nakes
cant
tv
time
booth
digital
interactive
product
physical
photo
connect
presentation
apple
available
building
listening
data

RESULTS
Model Analysis

- Support Vector Machine is the model that performs best as a classifier for this dataset, in order to predict the positive and negative reactions of customers based on sentiment analysis of their tweets.

precision	recall	f1-score
1.000000	0.611111	0.758621
0.933962	1.000000	0.965854
0.940171	0.940171	0.940171
0.966981	0.805556	0.862237
0.944122	0.940171	0.933972

Conclusion
Text Analysis

- Twitter is confirmed ad a direct line for customer engagement. Comparing Apple and Google it seems like there is a major focus on the products for Apple, on the community for Google.

Conclusion
Model Analysis

- Support Vector Machine is the model that performs best as a classifier for this dataset, in order to predict the positive and negative reactions of customers based on sentiment analysis of their tweets.

Recommendations

- Iphone's usability features and related performance like for battery
- Ipad design.
- Android apps
- Google maps and network.
- Alternative forms of customer engagement

Further Research

- More models to test
- Parameters manipulation

Q&A

Thank you for the attention

Contact

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