

INST728E - MODULE 5

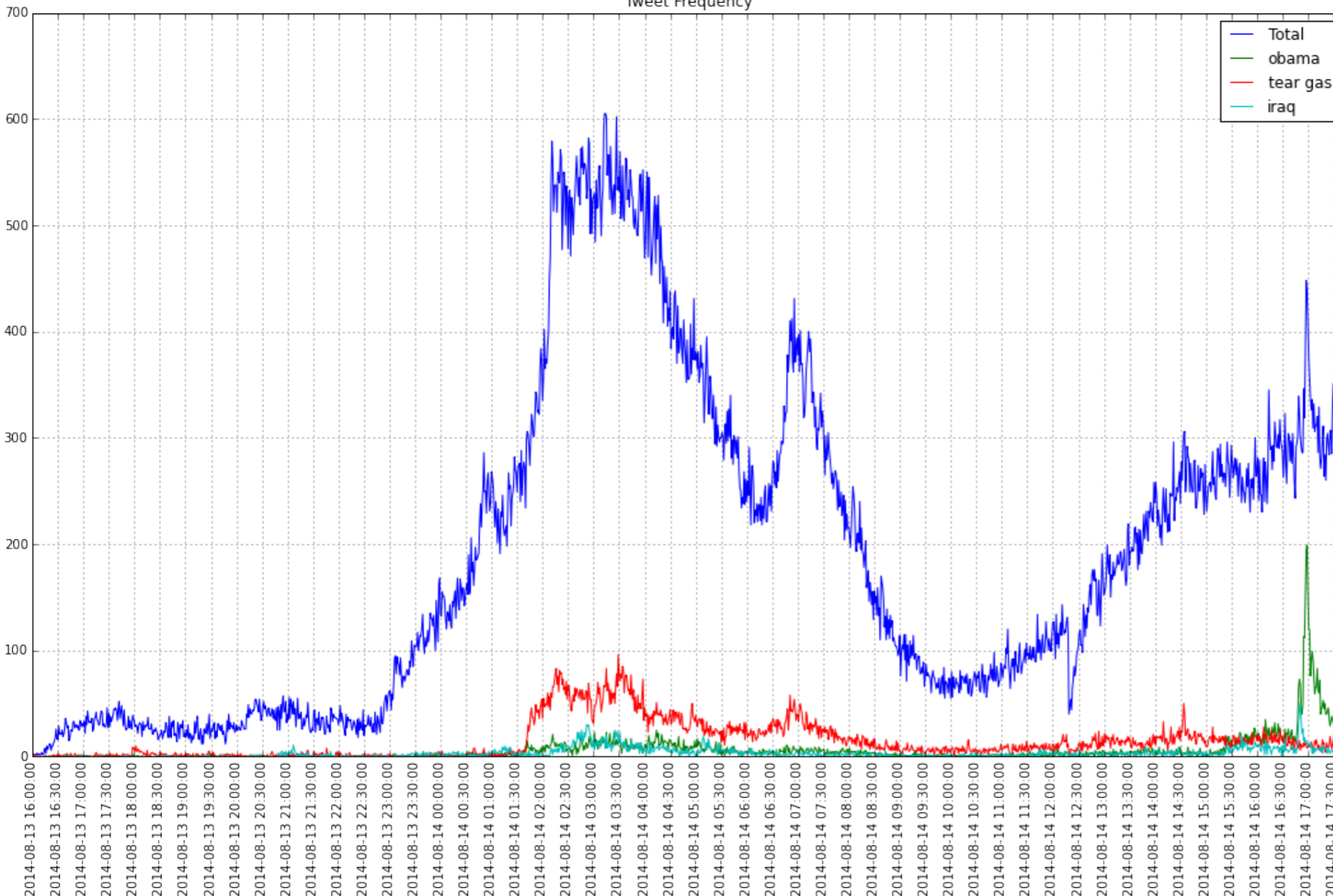
# FREQUENCY AND TIME SERIES ANALYSIS

CODY BUNTAIN  
@CODYBUNTAIN  
[CBUNTAIN@CS.UMD.EDU](mailto:CBUNTAIN@CS.UMD.EDU)

# MODULE 5

## FREQUENCY AND TIME SERIES ANALYSIS

Tweet Frequency



Top Twenty Hashtags:

```
#ferguson 209701
#mikebrown 17824
#mediablackout 5322
#gaza 4497
#michaelbrown 2541
#dontshoot 1968
#anonymous 1836
#stl 1607
#palestine 1542
#prayforferguson 1525
#justiceformikebrown 1322
#opferguson 1160
#myawhite 995
#usa 956
#policestate 906
#fergusonshooting 875
#tcot 805
#inners 773
#iraq 736
#fergusonriot 656
```

```
en 282138
es 3759
und 1882
de 1133
tr 795
fr 623
et 476
sk 463
tl 330
in 306
ar 282
it 241
```

# FIRST STEP

- When was a social media message posted?
- Tweets have a "created\_at" field
  - e.g., "Sun Jul 14 18:36:11 +0000 2013"
- Want to convert this string to a date and time

```
"SUN JUL 14 18:36:11  
+0000 2013"
```

```
FORMAT = "%A %B %D  
%H:%M:%S +0000 %Y"
```

```
DATETIME.STRTIME()
```

```
DATETIME(17, 7, 2013,  
18, 36, 11, 0, UTC)
```

# FIRST STEP

- Now we can study the number of messages per minute, hour, day, week, etc.

```
"SUN JUL 14 18:36:11  
+0000 2013"
```

```
FORMAT = "%A %B %D  
%H:%M:%S +0000 %Y"
```

```
DATETIME.STRTIME()
```

```
DATETIME(17, 7, 2013,  
18, 36, 11, 0, UTC)
```

# MODULE 5 HOMEWORK

# FILL OUT AND SUBMIT MODULE NOTEBOOK

- Using the target event you selected:
  - Choose a few keywords or phrases to describe this event
  - Estimate the time of the disaster using frequency analysis in Twitter
  - Identify the 5 most retweeted messages that were posted **after** your selected event

# JUPYTER NOTEBOOK EXAMPLE