

Week_8_Assignment_Oussama_Ennaciri

October 18, 2024

1 Week_8_Assignment_Oussama_Ennaciri.ipynb

2 NLP on social media data

Take our social media we collected last week and:

- extract the sentiment scores of the titles of the posts
 - you can use the keyword method, Python packages, or other methods to extract the sentiment scores
- plot a histogram of the sentiment scores
- look at descriptive statistics (mean, median, standard deviation) of the sentiment scores
- examine the text for some of the highest and lowest sentiment scores
- write a short analysis of the results and our process, as well as propose one idea for something we could use this data for

Optional advanced challenges: - Compare different sentiment analysis methods (e.g. textblob and VADER). Does one seem to work better than another? - Get the sentiments of the comments for each post. We can do a lot with this, such as: - look at the average sentiment for each post and compare it with the sentiment of the title and/or text - look at the distribution of sentiments for each post and find the posts with the widest range of sentiments (controversial posts) - Examine the subjectivity of our data (e.g. using textblob) - Use topic modeling on the posts - you can also add in the comments to the topic model - Look at the most frequent words for positive and negative sentiment posts

Note: There is no assignment solution file for this week.

2.1 Load data

First, we load our data from our SQLite database we saved last week.

```
[2]: import sqlite3
import pandas as pd
import matplotlib.pyplot as plt
```

```
[3]: con = sqlite3.connect('so_reddit.sqlite')
df = pd.read_sql_query('SELECT * from posts;', con)
con.close()
df
```

[3]:

```

                                title \
0  1 out of 5 young people 18-29 now say that the...
1  Is there a paedophilia-panic going on in the US?
2                                Burned Out?
3  Are memes ok? (Goffman inspired meme)
4  For the sociologist who love The Office as muc...
..
995 Big sociological theorists in their "prime" ri...
996                                Why wasn't race created earlier?
997 Has there been research done on how to reduce ...
998 What are large, free database sets that you wi...
999 Any recommendations for Marxist-focused sociol...

                                link          author \
0  /r/sociology/comments/18e3ai0/1_out_of_5_young... InfluenceLevel1629
1  /r/sociology/comments/17nowa7/is_there_a_paedo... pixelhippie
2  /r/sociology/comments/18btdj0/burned_out/ Past_Potential902
3  /r/sociology/comments/q3p5wh/are_memes_ok_goff... swerc137
4  /r/sociology/comments/ktalnx/for_the_sociologi... frenchkafka
..
995 /r/sociology/comments/or3zqy/big_sociological_... leftzoloft
996 /r/sociology/comments/ly2nl3/why_wasnt_race_cr... leftzoloft
997 /r/sociology/comments/jxydre/has_there_been_re... Slashtap
998 /r/sociology/comments/iux2su/what_are_large_fr... ViolaInternational
999 /r/sociology/comments/clia13/any_recommendatio... Dpira_Ugotts

n_comments  score                                text \
0           419    1225
1           478    1149 Sorry for the bold and somewhat exaggerated cl...
2           185     774 I saw this interesting tweet from a Professor...
3            19     764
4            15     630
..
995          36     36 It feels like sociology is losing its big theo...
996          17     36 A lot of sociologists argue (and I agree) that...
997          13     35 I was talking to a friend in the military this...
998           6     39
999          33     35 I have been considering doing a PhD in sociolo...

                                comments
0  Note the 65+ age group value.\n\nViewed sociol...
1  Honestly, you may be right. I have certainly s...
2  I feel like none of us have really recovered f...
3  Surprise parties. This is what killed my perso...
4  My students read part of *Suicide* for their S...
..
995 It's less about sociology losing its big theor...
```

```

996 Race and racism can't really come to fruition ...
997 Having racial bias (with varying degrees of in...
998 World values survey and European Social Survey...
999 Humboldt University in Berlin, Germany is the ...

```

```
[1000 rows x 7 columns]
```

```
[5]: df['combined'] = df['title'] + ' ' + df['text']
df
```

```

[5]:
                                     title \
0      1 out of 5 young people 18-29 now say that the...
1      Is there a paedophilia-panic going on in the US?
2                                     Burned Out?
3      Are memes ok? (Goffman inspired meme)
4      For the sociologist who love The Office as muc...
..
995 Big sociological theorists in their "prime" ri...
996      Why wasn't race created earlier?
997 Has there been research done on how to reduce ...
998 What are large, free database sets that you wi...
999 Any recommendations for Marxist-focused sociol...

                                     link          author \
0      /r/sociology/comments/18e3ai0/1_out_of_5_young... InfluenceLevel1629
1      /r/sociology/comments/17nowa7/is_there_a_paedo... pixelhippie
2      /r/sociology/comments/18btdj0/burned_out/      Past_Potential902
3      /r/sociology/comments/q3p5wh/are_memes_ok_goff... swerc137
4      /r/sociology/comments/ktalnx/for_the_sociologi... frenchkafka
..
995 /r/sociology/comments/or3zqy/big_sociological_... leftzoloft
996 /r/sociology/comments/ly2nl3/why_wasnt_race_cr... leftzoloft
997 /r/sociology/comments/jxydre/has_there_been_re... Slashtap
998 /r/sociology/comments/iux2su/what_are_large_fr... ViolaInternational
999 /r/sociology/comments/clia13/any_recommendatio... Dpira_Ugotts

n_comments  score          text \
0           419    1225
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2           185     774  I saw this interesting tweet from a Professor...
3            19     764
4            15     630
..
995          36     36  It feels like sociology is losing its big theo...
996          17     36  A lot of sociologists argue (and I agree) that...
997          13     35  I was talking to a friend in the military this...
998           6     39

```

```
999          33      35 I have been considering doing a PhD in sociolo...
```

```

                                comments \
0    Note the 65+ age group value.\n\nViewed sociol...
1    Honestly, you may be right. I have certainly s...
2    I feel like none of us have really recovered f...
3    Surprise parties. This is what killed my perso...
4    My students read part of *Suicide* for their S...
..
995  It's less about sociology losing its big theor...
996  Race and racism can't really come to fruition ...
997  Having racial bias (with varying degrees of in...
998  World values survey and European Social Survey...
999  Humboldt University in Berlin, Germany is the ...

```

```

                                combined
0    1 out of 5 young people 18-29 now say that the...
1    Is there a paedophilia-panic going on in the U...
2    Burned Out? I saw this interesting tweet from ...
3    Are memes ok? (Goffman inspired meme)
4    For the sociologist who love The Office as muc...
..
995  Big sociological theorists in their "prime" ri...
996  Why wasn't race created earlier? A lot of soci...
997  Has there been research done on how to reduce ...
998  What are large, free database sets that you wi...
999  Any recommendations for Marxist-focused sociol...

```

```
[1000 rows x 8 columns]
```

Since we have both the title and the text from for each post, I could combine them. I will leave the comments separate to avoid diluting the sentiment of the author's opinion.

2.2 Keyword sentiment

2.2.1 AFINN

We will start with a keyword sentiment analysis technique. We begin by loading a dictionary of words along with their respective sentiment values, which range from -5 (Most Negative) to 5 (Most Positive).

```
[6]: sentiment_df = pd.read_csv('AFINN-en-165.txt', sep='\t', names=['word',
    ↳ 'score'], index_col='word')
    sentiment_df
```

```
[6]:      score
word
abandon    -2
```

abandoned	-2
abandons	-2
abducted	-2
abduction	-2
...	...
yucky	-2
yummy	3
zealot	-2
zealots	-2
zealous	2

[3382 rows x 1 columns]

```
[7]: sentiment_dict = sentiment_df.to_dict()['score']
```

Then, we perform the sentiment analysis. We take the scores for each word and takes the average to get the sentiment score for the full post (title+text).

```
[10]: import numpy as np

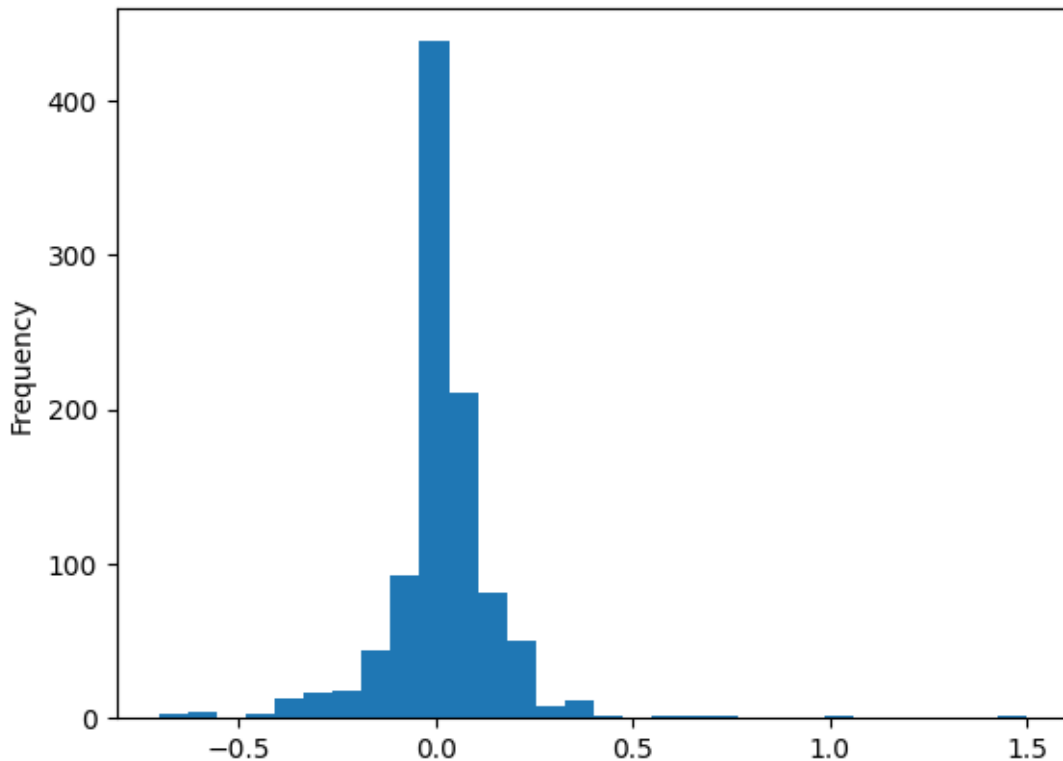
title_sentiments = []
for title in df['combined']:
    words = title.lower().split()
    this_titles_sentiments = []
    for w in words:
        if w in sentiment_dict.keys():
            this_titles_sentiments.append(sentiment_dict[w])
        else:
            this_titles_sentiments.append(0)

    title_sentiments.append(np.mean(this_titles_sentiments))
```

```
[11]: df['keyword_sentiment'] = title_sentiments
```

```
[12]: df['keyword_sentiment'].plot.hist(bins=30)
```

```
[12]: <Axes: ylabel='Frequency'>
```



```
[13]: df['keyword_sentiment'].mean()
```

```
[13]: 0.016592978040396465
```

```
[22]: df['keyword_sentiment'].median()
```

```
[22]: 0.0
```

```
[23]: df['keyword_sentiment'].std()
```

```
[23]: 0.14453495208830944
```

We received a mean sentiment score of 0.0166 for the keyword sentiment, indicating that on average the sentiment in the posts is almost neutral, but very slightly positive, which maybe caused by the words in our database not being in the lookup dictionary. The standard deviation is 0.14, indicating that most of the keyword sentiment scores are relatively close to the mean of 0.017. This suggests that while there are some keywords that are significantly positive or negative, they are less common compared to those closer to a neutral sentiment.

We can analyze some of the top and bottom sentiment posts:

```
[18]: df.sort_values(by='keyword_sentiment')[['combined', 'keyword_sentiment']]
```

```
[18]:
```

	combined	keyword_sentiment
651	Do women slut shame other women as much as men...	-0.700000
538	How faking your feelings at work can be damaging	-0.666667
547	Norway's controversial experiment - healing pr...	-0.666667
431	Why Sexism and Racism Never Diminish-Even When...	-0.615385
817	Inequality Is Only Getting Worse	-0.600000
..
277	The 100 Best Sociology Books	0.600000
14	Social disorganization humor	0.666667
688	Good sociology based podcasts?	0.750000
31	Yes	1.000000
19	Pure gold	1.500000

[1000 rows x 2 columns]

```
[24]: df.sort_values(by='keyword_sentiment')['combined'].to_list()[:10]
```

```
[24]: ['Do women slut shame other women as much as men? And why do men and women slut
shame other women?',
'How faking your feelings at work can be damaging ',
'Norway's controversial experiment - healing prisoners instead of punishing ',
'Why Sexism and Racism Never Diminish-Even When Everyone Becomes Less Sexist
and Racist ',
'Inequality Is Only Getting Worse ',
'How to Destroy 'Surveillance Capitalism' ',
'A cleansing fire: Moral outrage alleviates guilt and buffers threats to one's
moral identity ',
'The 1% of the population accountable for 63% of all violent crime convictions
',
'Anthony Giddens "The Suicide Problem in French Sociology" 1965. ',
'The Shocking Truth of the Notorious Milgram Obedience Experiments ']
```

Sorting the posts to identify the lowest sentiment scores reveals posts on negative attitudes towards women, poor mental health, sexism, racism, inequality, suicide, and other social issues. These are negative topics, which suggests that the sentiment scores are accurate. However, one of the bottom ten posts addresses the topic of healing prisoners instead of punishing them. While this subject promotes the positive idea of supporting and reintegrating prisoners, it received a negative score due to it having more negative words 'controversial' (score : -2), 'prisoners' (score : -2), and 'punishing' (score : -2), compared to positive ones 'healing' (score : 0).

```
[25]: df.sort_values(by='keyword_sentiment', ascending=False)['combined'].to_list()[:
↪10]
```

```
[25]: ['Pure gold ',
'Yes ',
'Good sociology based podcasts? ',
'Social disorganization humor ',
'The 100 Best Sociology Books ',
```

```
'Wealth matters when it comes to obesity ',  
'How happiness in marriage changes over time ',  
'70% of rich families lose wealth by second generation, 90% by third ',  
'Stuart Hall, Champion of cultural studies and leading intellectual dies ',  
'Rest In Peace bell hooks ']
```

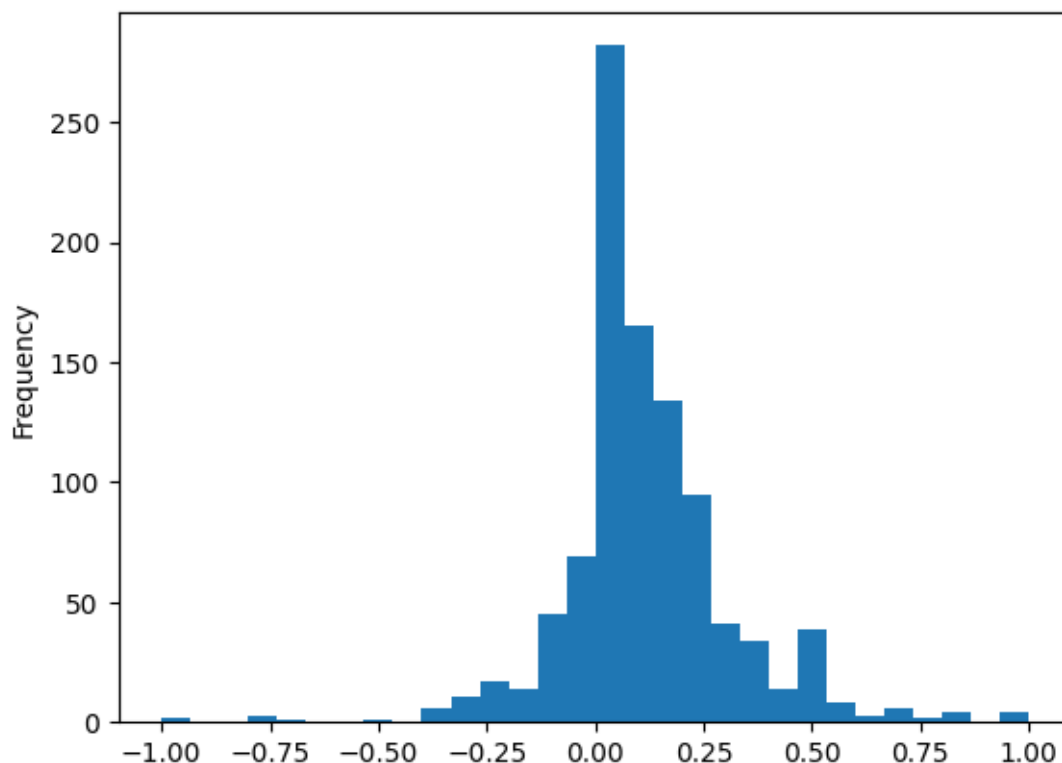
Sorting the posts by the highest sentiment scores reveals a mix of positive posts containing words like (gold, yes, and good) and others that aren't positive, such as two posts about death. This occurred because the sentiment analysis picked up positive words like 'champion' (score: 2) and 'leading' (score: 2), which outweighed 'dies' (score: 0), a word not included in the sentiment library. As a result, these posts were incorrectly classified as positive. In order to fix this, we need a model that can take context into account.

2.2.2 TextBlob

```
[28]: def get_tb_sentiment(text):  
      tb = TextBlob(text)  
      return tb.sentiment[0]  
  
df['tb_sentiment'] = df['combined'].apply(get_tb_sentiment)
```

```
[29]: df['tb_sentiment'].plot.hist(bins=30)
```

```
[29]: <Axes: ylabel='Frequency'>
```



We can see that the distribution using TextBlob looks similar but is more spread out than our AFINN method, which maybe because TextBlob has more words in its lookup dictionary than the AFINN dictionary.

```
[30]: df['tb_sentiment'].mean()
```

```
[30]: 0.11010258492311031
```

```
[34]: df.sort_values(by='tb_sentiment', ascending=False)[['combined', 'tb_sentiment']]
```

```
[34]:
```

		combined	tb_sentiment
78	What are "must-read" sociology books? Hit me w...		1.00
693	Education is often touted as the 'great equali...		1.00
345	What is the best paper in sociology that you h...		1.00
277	The 100 Best Sociology Books		1.00
639	This is fascinating. No verbal instruction to ...		0.85
..
312	For when you need to talk with your economist ...		-0.75
269	Tutorial on how to calculate descriptive stat...		-0.75
399	The 1% of the population accountable for 63% o...		-0.80
759	The Shocking Truth of the Notorious Milgram Ob...		-1.00
593	There's an awful cost to getting a PhD that no...		-1.00

[1000 rows x 2 columns]

```
[37]: df.sort_values(by='tb_sentiment', ascending=False)['combined'].to_list()[:10]
```

```
[37]: ['What are "must-read" sociology books? Hit me with your best books.',
      "Education is often touted as the 'great equalizer.' But does it truly mitigate
      socioeconomic disparities? Share your thoughts! ",
      'What is the best paper in sociology that you have read in 2018 and why? ',
      'The 100 Best Sociology Books ',
      'This is fascinating. No verbal instruction to the audience, yet a perfect
      conveyance of instruction. ',
      'Trump's Win Has Ad Agencies Rethink How They Collect Data, Recruit staff:
      Trump's win spurs concerns that ad agencies are out of touch with consumers |
      The Wall Street Journal ',
      'Are sociology memes welcome on this subreddit? Title.',
      'Iran set to elect record number of women into parliament. Eight of the women
      elected this time were on a reformist-backed list of 30 candidates standing in
      the Tehran constituency known as "the list of hope". Among them is Parvaneh
      Salahshori, a 51-year-old sociologist and university professor. ',
      'The automatic audio transcript for my Sociology class had very amusing
      spellings for Durkheim and Max Weber. ',
      'Kids from wealthier families feel more control over their lives -
      "Sociologists examined which measures of socioeconomic status -- parents\'']
```

```
education, family income, race and parents\' occupation -- have the greatest influence over a child\'s locus of control and why." \' ]
```

```
[38]: df.sort_values(by='tb_sentiment', ascending=True)['combined'].to_list()[:10]
```

```
[38]: ['There\'s an awful cost to getting a PhD that no one talks about ',  
      'The Shocking Truth of the Notorious Milgram Obedience Experiments ',  
      'The 1% of the population accountable for 63% of all violent crime convictions',  
      ',  
      'For when you need to talk with your economist friends: [http://www-personal.umich.edu/~econjeff/Papers/econ\\_soc\\_phrase\\_original.pdf] (http://www-personal.umich.edu/~econjeff/Papers/econ_soc_phrase_original.pdf)',  
      "Tutorial on how to calculate descriptive statistics in R Hey, I've created a tutorial on how to calculate descriptive statistics using the summary() function in the R programming language: [https://statisticsglobe.com/summary-function-in-r/] (https://statisticsglobe.com/summary-function-in-r/)",  
      'Is Fascism Bad? ',  
      'Climate change ignored? U-M study reveals sociology\'s blind spot ',  
      "Breakdown of Jay Z's 99 Problems with the sociology and law behind the verses",  
      ',  
      "Employed but homeless in the US: The \'working poor\' who can\'t afford to rent",  
      ',  
      'Majority now say Supreme Court should interpret Constitution for today - A majority of Americans (55%) now say the U.S. Supreme Court should base its rulings on what the Constitution "means in current times" \' ]
```

3 Summary

First, I loaded the data from our SQLite database we saved last week. I combined the title and text columns. I left the comments separate to avoid diluting the sentiment of the author's opinion.

I conducted a keyword sentiment analysis. I loaded a dictionary of words along with their respective sentiment values, which range from -5 (Most Negative) to 5 (Most Positive), then, I took the scores for each word and calculated the average to get the sentiment score for each full post (title+text).

I received a mean sentiment score of 0.0166 for the keyword sentiment, indicating that on average the sentiment in the posts is almost neutral, but very slightly positive, which maybe caused by the words in my database not being in the lookup dictionary. The standard deviation is 0.14, indicating that most of the keyword sentiment scores are relatively close to the mean of 0.017. This suggests that while there are some keywords that are significantly positive or negative, they are less common compared to those closer to a neutral sentiment.

I then analyzed some of the top and bottom sentiment posts:

Sorting the posts by the lowest sentiment scores revealed posts on negative attitudes towards women, poor mental health, sexism, racism, inequality, suicide, and other social issues. These are negative topics, which suggests that the sentiment scores are accurate. However, one of the bottom ten posts addresses the topic of healing prisoners instead of punishing them. While this subject promotes the positive idea of supporting and reintegrating prisoners, it received a negative

score due to it having more negative words ‘controversial’ (score : -2), ‘prisoners’ (score : -2), and ‘punishing’ (score : -2), compared to positive ones ‘healing’ (score : 0).

Sorting the posts by the highest sentiment scores revealed a mix of positive posts containing words like ‘gold’, ‘yes’, and ‘good’ and others that aren’t positive, such as two posts about death. This occurred because the sentiment analysis picked up positive words in the post “Stuart Hall, Champion of cultural studies and leading intellectual dies” like ‘champion’ (score: 2) and ‘leading’ (score: 2), which outweighed the word ‘dies’ (score: 0), a word not included in the sentiment library. As a result, these posts were incorrectly classified as positive. In order to fix this, we need a model that can take context into account.

Using the TextBlob methode, the sentiment scores were generally accurate to the meaning of the posts.

I believe sentiment analysis can be a valuable tool for both business and personal use. One idea that immediately came to mind is using it to analyze journal entries. By inputting these as data, I could assess my overall mental state on any given day. This would allow me to identify patterns and track emotional highs and lows. By linking these trends with specific events, medications, or weather conditions, I could better understand the causes of mood changes. I think this would be very effective for mental health monitoring and improvement.

```
[1]: !jupyter nbconvert --to pdf Week_8_Assignment_Oussama_Ennaciri.ipynb
```

```
[NbConvertApp] WARNING | pattern 'Week_8_Assignment_Oussama_Ennaciri.ipynb'
matched no files
```

```
This application is used to convert notebook files (*.ipynb)
to various other formats.
```

```
WARNING: THE COMMANDLINE INTERFACE MAY CHANGE IN FUTURE RELEASES.
```

Options

=====

The options below are convenience aliases to configurable class-options, as listed in the "Equivalent to" description-line of the aliases.

To see all configurable class-options for some <cmd>, use:

```
<cmd> --help-all
```

--debug

```
set log level to logging.DEBUG (maximize logging output)
```

```
Equivalent to: [--Application.log_level=10]
```

--show-config

```
Show the application's configuration (human-readable format)
```

```
Equivalent to: [--Application.show_config=True]
```

--show-config-json

```
Show the application's configuration (json format)
```

```
Equivalent to: [--Application.show_config_json=True]
```

--generate-config

```
generate default config file
```

```
Equivalent to: [--JupyterApp.generate_config=True]
```

-y

Answer yes to any questions instead of prompting.
 Equivalent to: [--JupyterApp.answer_yes=True]

--execute
 Execute the notebook prior to export.
 Equivalent to: [--ExecutePreprocessor.enabled=True]

--allow-errors
 Continue notebook execution even if one of the cells throws an error and include the error message in the cell output (the default behaviour is to abort conversion). This flag is only relevant if '--execute' was specified, too.
 Equivalent to: [--ExecutePreprocessor.allow_errors=True]

--stdin
 read a single notebook file from stdin. Write the resulting notebook with default basename 'notebook.*'
 Equivalent to: [--NbConvertApp.from_stdin=True]

--stdout
 Write notebook output to stdout instead of files.
 Equivalent to: [--NbConvertApp.writer_class=StdoutWriter]

--inplace
 Run nbconvert in place, overwriting the existing notebook (only relevant when converting to notebook format)
 Equivalent to: [--NbConvertApp.use_output_suffix=False
 --NbConvertApp.export_format=notebook --FilesWriter.build_directory=]

--clear-output
 Clear output of current file and save in place, overwriting the existing notebook.
 Equivalent to: [--NbConvertApp.use_output_suffix=False
 --NbConvertApp.export_format=notebook --FilesWriter.build_directory=
 --ClearOutputPreprocessor.enabled=True]

--no-prompt
 Exclude input and output prompts from converted document.
 Equivalent to: [--TemplateExporter.exclude_input_prompt=True
 --TemplateExporter.exclude_output_prompt=True]

--no-input
 Exclude input cells and output prompts from converted document.
 This mode is ideal for generating code-free reports.
 Equivalent to: [--TemplateExporter.exclude_output_prompt=True
 --TemplateExporter.exclude_input=True
 --TemplateExporter.exclude_input_prompt=True]

--allow-chromium-download
 Whether to allow downloading chromium if no suitable version is found on the system.
 Equivalent to: [--WebPDFExporter.allow_chromium_download=True]

--disable-chromium-sandbox
 Disable chromium security sandbox when converting to PDF..
 Equivalent to: [--WebPDFExporter.disable_sandbox=True]

--show-input
 Shows code input. This flag is only useful for dejavu users.
 Equivalent to: [--TemplateExporter.exclude_input=False]

```

--embed-images
    Embed the images as base64 dataurls in the output. This flag is only useful
    for the HTML/WebPDF/Slides exports.
    Equivalent to: [--HTMLExporter.embed_images=True]
--sanitize-html
    Whether the HTML in Markdown cells and cell outputs should be sanitized..
    Equivalent to: [--HTMLExporter.sanitize_html=True]
--log-level=<Enum>
    Set the log level by value or name.
    Choices: any of [0, 10, 20, 30, 40, 50, 'DEBUG', 'INFO', 'WARN', 'ERROR',
'CRITICAL']
    Default: 30
    Equivalent to: [--Application.log_level]
--config=<Unicode>
    Full path of a config file.
    Default: ''
    Equivalent to: [--JupyterApp.config_file]
--to=<Unicode>
    The export format to be used, either one of the built-in formats
        ['asciidoc', 'custom', 'html', 'latex', 'markdown', 'notebook',
'pdf', 'python', 'qtpdf', 'qtpng', 'rst', 'script', 'slides', 'webpdf']
        or a dotted object name that represents the import path for an
        ``Exporter`` class
    Default: ''
    Equivalent to: [--NbConvertApp.export_format]
--template=<Unicode>
    Name of the template to use
    Default: ''
    Equivalent to: [--TemplateExporter.template_name]
--template-file=<Unicode>
    Name of the template file to use
    Default: None
    Equivalent to: [--TemplateExporter.template_file]
--theme=<Unicode>
    Template specific theme(e.g. the name of a JupyterLab CSS theme distributed
    as prebuilt extension for the lab template)
    Default: 'light'
    Equivalent to: [--HTMLExporter.theme]
--sanitize_html=<Bool>
    Whether the HTML in Markdown cells and cell outputs should be sanitized.This
    should be set to True by nbviewer or similar tools.
    Default: False
    Equivalent to: [--HTMLExporter.sanitize_html]
--writer=<DottedObjectName>
    Writer class used to write the
                                results of the conversion
    Default: 'FilesWriter'
    Equivalent to: [--NbConvertApp.writer_class]

```

```

--post=<DottedOrNone>
    PostProcessor class used to write the
                                results of the conversion

    Default: ''
    Equivalent to: [--NbConvertApp.postprocessor_class]
--output=<Unicode>
    Overwrite base name use for output files.
        Supports pattern replacements '{notebook_name}'.
    Default: '{notebook_name}'
    Equivalent to: [--NbConvertApp.output_base]
--output-dir=<Unicode>
    Directory to write output(s) to. Defaults
                                to output to the directory of each notebook.
To recover
                                previous default behaviour (outputting to the
current
                                working directory) use . as the flag value.

    Default: ''
    Equivalent to: [--FilesWriter.build_directory]
--reveal-prefix=<Unicode>
    The URL prefix for reveal.js (version 3.x).
    This defaults to the reveal CDN, but can be any url pointing to a
copy
    of reveal.js.
    For speaker notes to work, this must be a relative path to a local
    copy of reveal.js: e.g., "reveal.js".
    If a relative path is given, it must be a subdirectory of the
    current directory (from which the server is run).
    See the usage documentation
    (https://nbconvert.readthedocs.io/en/latest/usage.html#reveal-js-
html-slideshow)
    for more details.
    Default: ''
    Equivalent to: [--SlidesExporter.reveal_url_prefix]
--nbformat=<Enum>
    The nbformat version to write.
        Use this to downgrade notebooks.
    Choices: any of [1, 2, 3, 4]
    Default: 4
    Equivalent to: [--NotebookExporter.nbformat_version]

```

Examples

The simplest way to use nbconvert is

```
> jupyter nbconvert mynotebook.ipynb --to html
```

Options include ['asciidoc', 'custom', 'html', 'latex', 'markdown', 'notebook', 'pdf', 'python', 'qtpdf', 'qtpng', 'rst', 'script', 'slides', 'webpdf'].

```
> jupyter nbconvert --to latex mynotebook.ipynb
```

Both HTML and LaTeX support multiple output templates. LaTeX includes

'base', 'article' and 'report'. HTML includes 'basic', 'lab' and 'classic'. You can specify the flavor of the format used.

```
> jupyter nbconvert --to html --template lab mynotebook.ipynb
```

You can also pipe the output to stdout, rather than a file

```
> jupyter nbconvert mynotebook.ipynb --stdout
```

PDF is generated via latex

```
> jupyter nbconvert mynotebook.ipynb --to pdf
```

You can get (and serve) a Reveal.js-powered slideshow

```
> jupyter nbconvert myslides.ipynb --to slides --post serve
```

Multiple notebooks can be given at the command line in a couple of different ways:

```
> jupyter nbconvert notebook*.ipynb
> jupyter nbconvert notebook1.ipynb notebook2.ipynb
```

or you can specify the notebooks list in a config file, containing::

```
c.NbConvertApp.notebooks = ["my_notebook.ipynb"]
```

```
> jupyter nbconvert --config mycfg.py
```

To see all available configurables, use `--help-all`.

[]: