

# Election Campaign Dynamics

Updates, Website

---

Anahita Poulad

Emre Canbazer

Amir Jamali

Melina Chioutakou

February 3, 2022

# OUTLINE

---

1. Updates

2. Website

# Updates

---

# UPDATES

- Refining the Twitter Corpus
  - Requests from clients
    - New candidate: Koenig
    - Retreated/Eliminated candidates: Montebourg, Larrouturou, Bertrand
    - New features: Separate date and hours

emojicons	time	time_Y_M_D	time_H_M_S
None	2022-02-02 16:35:18	2022-02-02	16:35:18
:green_square:, :scroll:, :green_square:, :gre...	2022-02-02 11:04:25	2022-02-02	11:04:25
:green_square:, :notebook:, :green_square:, :s...	2022-02-02 10:53:58	2022-02-02	10:53:58
:France:, :megaphone:, :green_square:, :scroll...	2022-02-02 10:49:05	2022-02-02	10:49:05
	2022-		

# CANDIDATE TOPIC RELATION OVER TIME

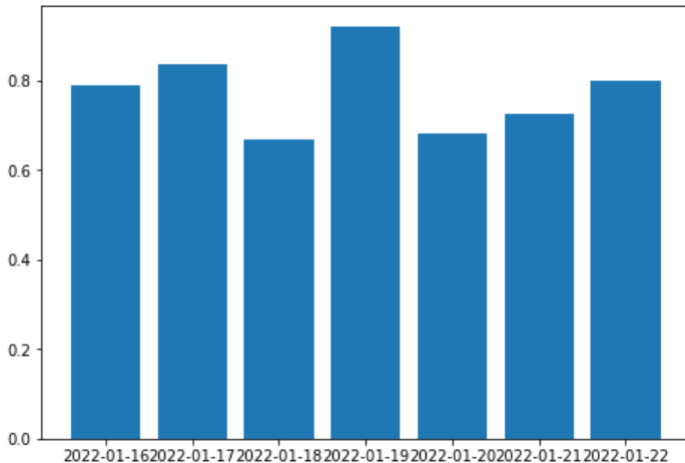
```
similarity = {'dates':[], 'sim':[]}
for ind in candid_1_topics_r.index:
    candid_1_t = candid_1_topics_r.topic[ind]
    candid_2_t = candid_2_topics_r.topic[ind]
    doc1 = nlp(candid_1_t)
    doc2 = nlp(candid_2_t)
    similarity['dates'].append(ind.date())
    similarity['sim'].append('{:.3}'.format(doc1.similarity(doc2)))
similarity_df = pd.DataFrame.from_dict(similarity, dtype=float)
```

**Figure 1:** Get the semantic similarity based on time

	dates	sim
0	2022-01-16	0.790
1	2022-01-17	0.836
2	2022-01-18	0.669
3	2022-01-19	0.923
4	2022-01-20	0.681
5	2022-01-21	0.727
6	2022-01-22	0.800

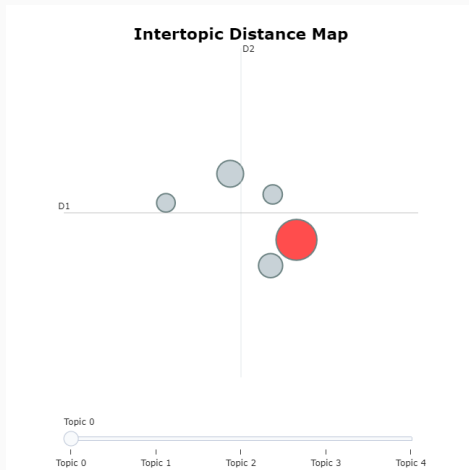
**Figure 2:** Resulting similarity dataframe

## CANDIDATE TOPIC RELATION OVER TIME



**Figure 3:** Zemmour and Le Pen's topics similarity over a week

# INTER-TOPIC DISTANCE



# TOPIC SIMILARITY

```
In [29]: 1 import fasttext
          2 model = fasttext.load_model("gensim-data\\cc.fr.300.bin\\cc.fr.300.bin")

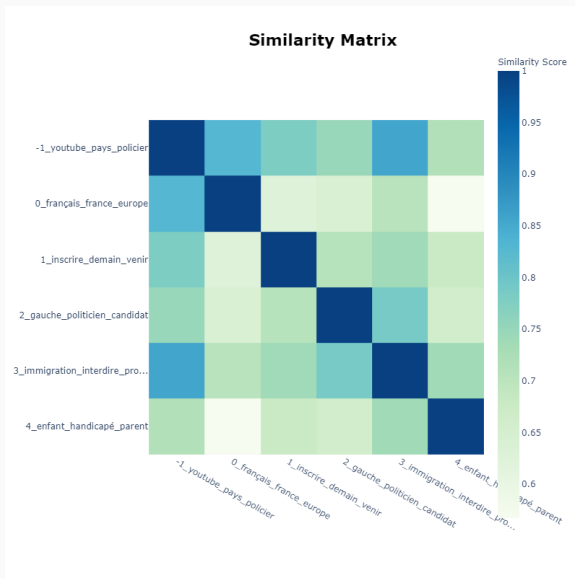
Warning : `load_model` does not return WordVectorModel or SupervisedModel any more, but a `FastText` object.
```

```
In [30]: 1 import numpy as np
          2
          3 df = pd.DataFrame({"questions":topic_list_1})
          4
          5 df["vecs"] = df["questions"].apply(model.get_sentence_vector)
          6
          7 from scipy.spatial.distance import pdist, squareform
          8 out = pdist(np.stack(df['vecs']), metric="cosine")
          9 cosine_similarity = squareform(out)
         10 print(cosine_similarity)

[[0.          0.56311359 0.45381749 0.6564606  0.64648623 0.59208383]
 [0.56311359 0.          0.57012764 0.53140708 0.60120124 0.56137877]
 [0.45381749 0.57012764 0.          0.50060046 0.59027854 0.519126  ]
 [0.6564606  0.53140708 0.50060046 0.          0.62654354 0.68910435]
 [0.64648623 0.60120124 0.59027854 0.62654354 0.          0.58767631]
 [0.59208383 0.56137877 0.519126  0.68910435 0.58767631 0.          ]]
```



# TOPIC SIMILARITY



# EVALUATION

- Evaluating a topic model is a challenging task
  - unsupervised models
  - The absence of standard measures and well-established tools
- ◇ Normalized Point-wise Mutual Information (NPMI)
- ◇ It measures the topic coherence between high scoring words in the topic
- ◇ Ranges from  $[-1, 1]$
- ◇ The higher positive NPMI the better

# Website

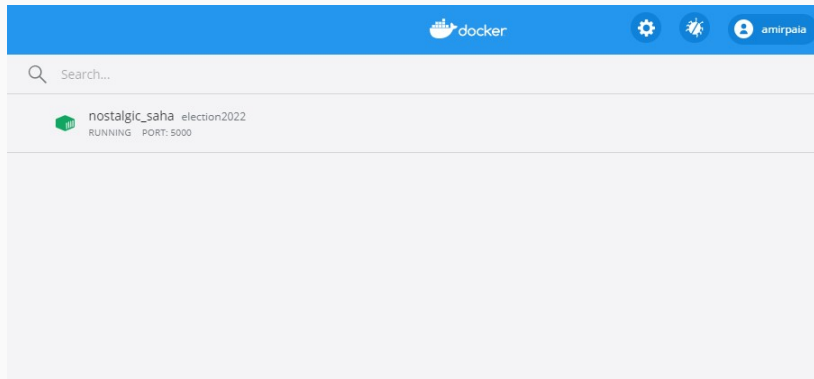
---

# DOCKER IMAGE AND DEPLOY

- Creating the dockerfile
- Building the docker image
- Tagging the docker image on ACR (Azure Container Registry)
- Pushing the tagged docker image to be deployed

# DOCKER IMAGE HAS ALREADY BEEN BUILT

A docker image has been successfully built



Election2022

# DEPLOYMENT ON AZURE

Docker image can be easily pushed and deployed into Azure

The screenshot displays the Microsoft Azure portal interface for an App Service named 'france2022'. The top navigation bar includes the 'Microsoft Azure' logo, a search bar, and a user profile icon. Below the navigation bar, the 'Home' breadcrumb is visible. The main content area is divided into a left-hand navigation pane and a right-hand details pane. The left pane shows a list of options: Overview (selected), Activity log, Access control (IAM), Tags, Diagnose and solve problems, Security, Events (preview), Deployment, Quickstart, Deployment credentials, and Deployment slots. The right pane, titled 'Essentials', provides key information about the App Service, including its Resource group, Status, Location, Subscription, and various configuration details like URL, App Service Plan, and deployment credentials. A 'JSON View' link is also present in the top right of the Essentials section.

Essentials	
Resource group (Move)	: amirpaia_rg_Linux_southcentr...
Status	: Running
Location	: West Europe
Subscription (Move)	: Azure subscription 1
Subscription ID	: 2f82af9b-1904-49d8-9b97-39...
URL	: https://france2022.azurewebs...
App Service Plan	: ASP-amirpaiargLinuxsouthce...
FTP/deployment username	: No FTP/deployment user set
FTP hostname	: ftp://waws-prod-am2-497.ftp...
FTPS hostname	: ftps://waws-prod-am2-497.ft...
Tags (Edit)	: <a href="#">Click here to add tags</a>

# VISUALIZASION

Bringing the abilities of Matplotlib and Plotly into the browser by creating an HTML file ([Click Here](#))

In the next presentation, we will connect this possibility to the candidate names

**Thank you!**