



Emotional Rhetoric: A Sentiment Analysis in Modern Argentine Presidencies

Franco Reinaldo Bonifacini (41540A)

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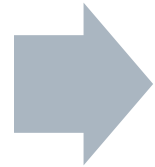
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Do the **last three Argentine presidents** express emotions in their **public speeches** in a way that supports the idea that they **adjust their message to the political context and popular opinion**?



Data Source

Scrapped Data
from GitHub
(Agustin Benassi)



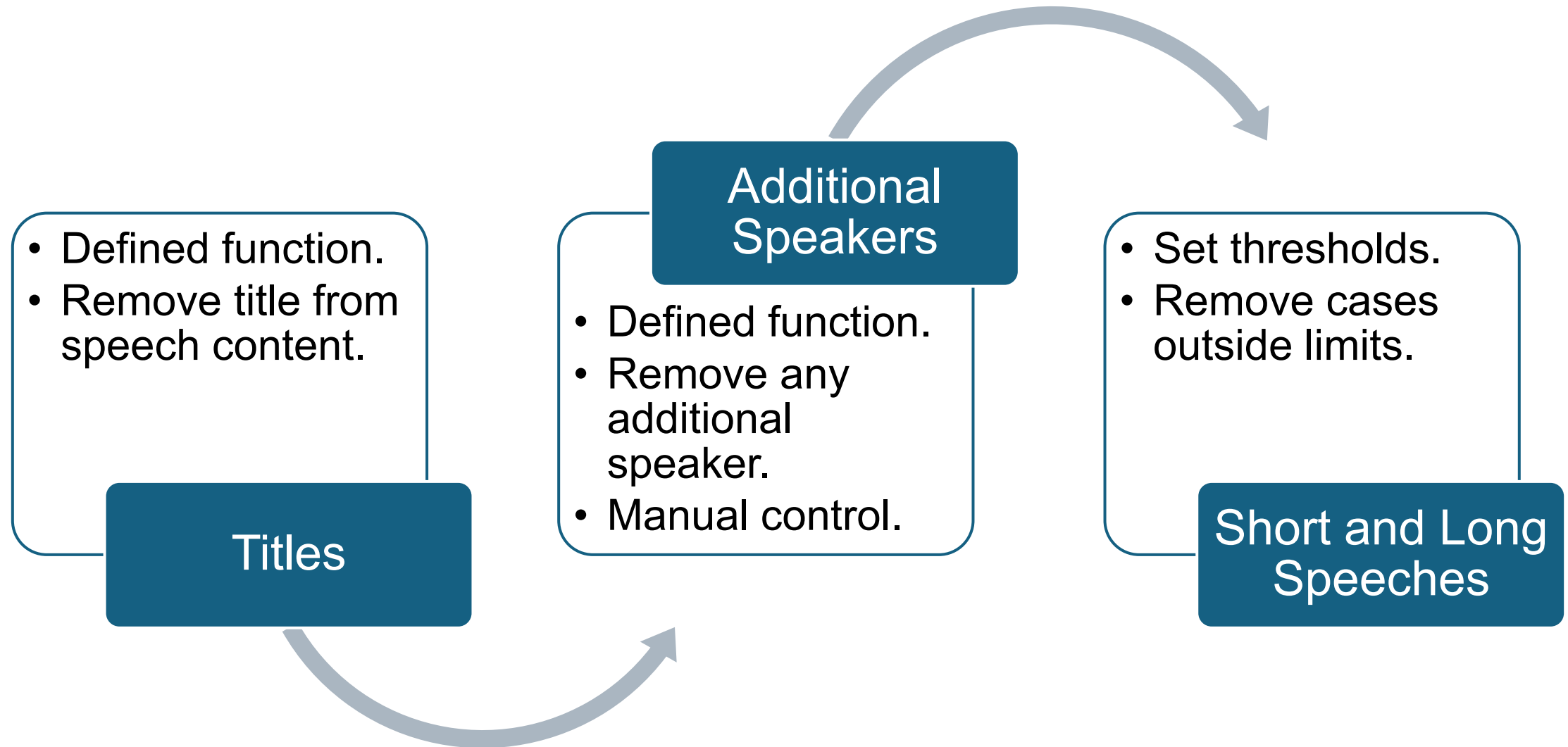
Scrapping code
for missing years



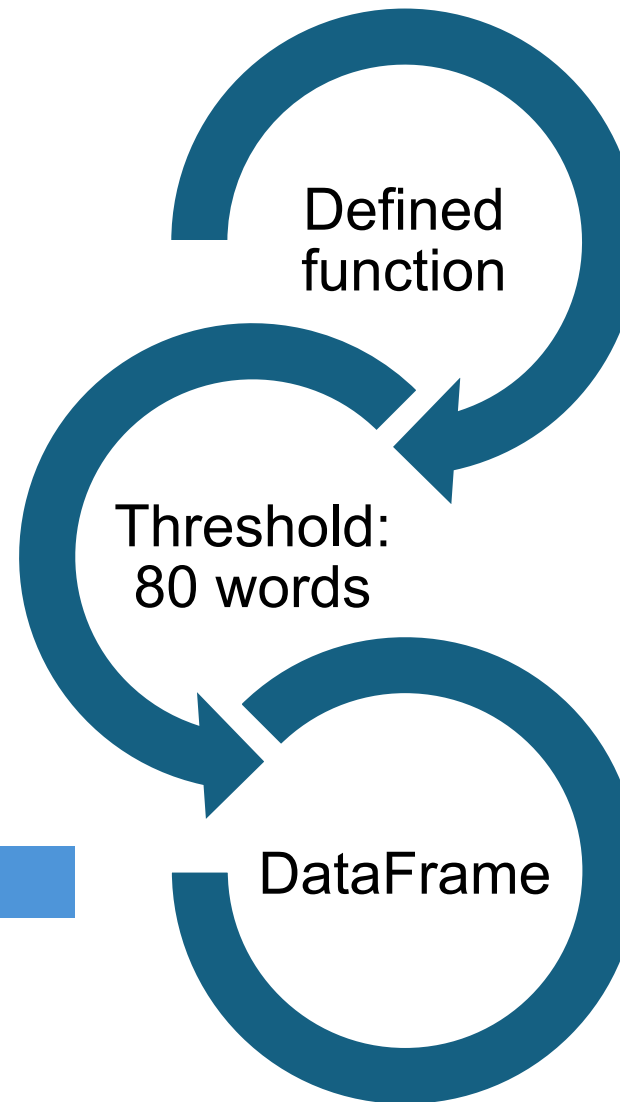
Manual Additions

* From official site of Casa Rosada,
containing official transcriptions.

Data Pre-processing - Remotion



Data Pre-processing - Splitting



Shorter segments could risk losing semantic value relevant to the analysis.

`explode()` function for flat structure.

Data Pre-processing - Translation

Defined function

Blocks of 50 sentences

New column with translated sentences

"Helsinki-NLP/opus-mt-es-en" model.

"Hola a todos."
"Yo soy el león."
"Yo también los amo."
"Viva la libertad, carajo."



"Hello, everyone."
"I'm the lion."
"I love you too."
"Long live the fucking freedom."

date	president	sentences	sentences_en
2024-01-17	Javier Milei	Buenas tardes, muchas gracias: hoy estoy acá p...	Good afternoon, thank you very much: today I a...
2024-01-17	Javier Milei	Lamentablemente en las últimas décadas, motiva...	Unfortunately in recent decades, motivated by ...
2024-01-17	Javier Milei	Nosotros estamos, acá, para decirles que los e...	We are here to tell you that collectivist expe...
2024-01-17	Javier Milei	Créanme, nadie mejor que nosotros los argentin...	Believe me, no one better than us Argentines t...
2024-01-17	Javier Milei	Cuando adoptamos el modelo de la libertad – al...	When we adopted the model of freedom – back in...

Emotion Classification

1. Model: "SamLowe/roberta-base-go emotions"

- I. Adaptation of RoBERTa-base.
- II. 27 emotions + neutral.
- III. Multi-label classification.

2. Top emotion: emotion with highest score.

3. Grouped emotions

General Category	Emotions Included
Joy	gratitude, optimism, approval, joy, admiration, amusement, excitement, pride, relief, love, caring
Sadness	sadness, remorse, embarrassment, confusion, disappointment
Anger	anger, annoyance, disgust, disapproval
Fear	fear, nervousness, surprise
Interest	curiosity, realization, desire
Neutral	neutral

Year	president	emotion_group	relative_frequency
2019	Mauricio Macri	Neutral	0.445066
2019	Mauricio Macri	Joy	0.441506
2019	Mauricio Macri	Interest	0.059003
2019	Mauricio Macri	Sadness	0.032299
2019	Mauricio Macri	Anger	0.016022
2019	Mauricio Macri	Fear	0.006104

Year	president	emotion_group	relative_frequency
2023	Alberto Fernández	Neutral	0.537529
2023	Alberto Fernández	Joy	0.299162
2023	Alberto Fernández	Interest	0.079872
2023	Alberto Fernández	Sadness	0.047780
2023	Alberto Fernández	Anger	0.028169
2023	Alberto Fernández	Fear	0.007488

4. Frequency calculation.

5. Word cloud by emotion, by president.

6. SHAP-base analysis.

- I. Vs. attention-based analysis.
- II. More robust, interpretable explanations.

Year	president	emotion_group	relative_frequency
2024	Javier Milei	Neutral	0.676009
2024	Javier Milei	Joy	0.189462
2024	Javier Milei	Sadness	0.053812
2024	Javier Milei	Anger	0.042601
2024	Javier Milei	Interest	0.033632
2024	Javier Milei	Fear	0.004484

Topic Classification

1. First approach: **BERTopic**.

- I. **Precise.**
- II. Based on **semantic embeddings**

2. Limitation

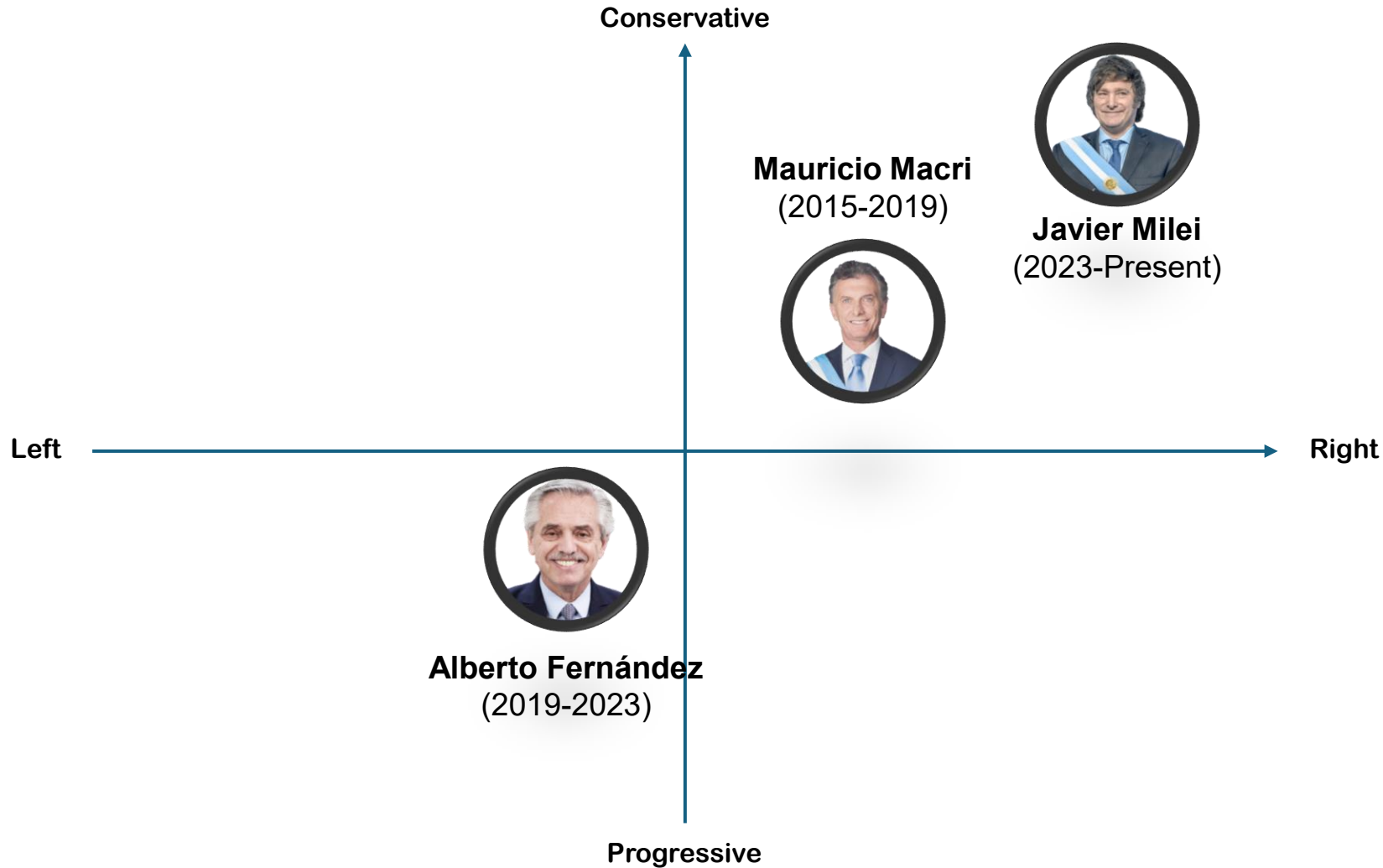
date	president	sentences	sentences_en	emotion	score	emotion_group	topic	topic_label
2024-01-17	Javier Milei	Buenas tardes, muchas gracias: hoy estoy acá p...	Good afternoon, thank you very much: today I a...	gratitude	0.979838	Joy	941 941_bourgeoisie_capitalist_bourgeois_capitalism	
2024-01-17	Javier Milei	Lamentablemente en las últimas décadas, motiva...	Unfortunately in recent decades, motivated by ...	disappointment	0.647509	Sadness	414 414_motivation_motivations_motivational_motivate	
2024-01-17	Javier Milei	Nosotros estamos, acá, para decirles que los e...	We are here to tell you that collectivist expe...	neutral	0.557848	Neutral	2030 2030_hypothesis_hypotheses_theories_scientific	
2024-01-17	Javier Milei	Créanme, nadie mejor que nosotros los argentinos...	Believe me, no one better than us Argentines t...	neutral	0.757691	Neutral	259 259_condor_dictators_declassified_dictatorships	
2024-01-17	Javier Milei	Cuando adoptamos el modelo de la libertad – al...	When we adopted the model of freedom – back in...	neutral	0.381012	Neutral	842 842_nationalism_nationalist_nationalists_patri...	

3. Second approach: **dstefa/roberta-base topic classification nyt news**

- I. **RoBERTa** based.
- II. **New York Times** news data.
- III. Generalizable topic labels → **easier to analyse.**

date	president	sentences	sentences_en	emotion	score	emotion_group	topic	topic_label	topic_score
2024-01-17	Javier Milei	Buenas tardes, muchas gracias: hoy estoy acá p...	Good afternoon, thank you very much: today I a...	gratitude	0.979838	Joy	941 Business and Finance		0.885292
2024-01-17	Javier Milei	Lamentablemente en las últimas décadas, motiva...	Unfortunately in recent decades, motivated by ...	disappointment	0.647509	Sadness	414 Crime		0.960588
2024-01-17	Javier Milei	Nosotros estamos, acá, para decirles que los e...	We are here to tell you that collectivist expe...	neutral	0.557848	Neutral	2030 Business and Finance		0.980380
2024-01-17	Javier Milei	Créanme, nadie mejor que nosotros los argentinos...	Believe me, no one better than us Argentines t...	neutral	0.757691	Neutral	259 Politics		0.792494
2024-01-17	Javier Milei	Cuando adoptamos el modelo de la libertad – al...	When we adopted the model of freedom – back in...	neutral	0.381012	Neutral	842 Business and Finance		0.982698

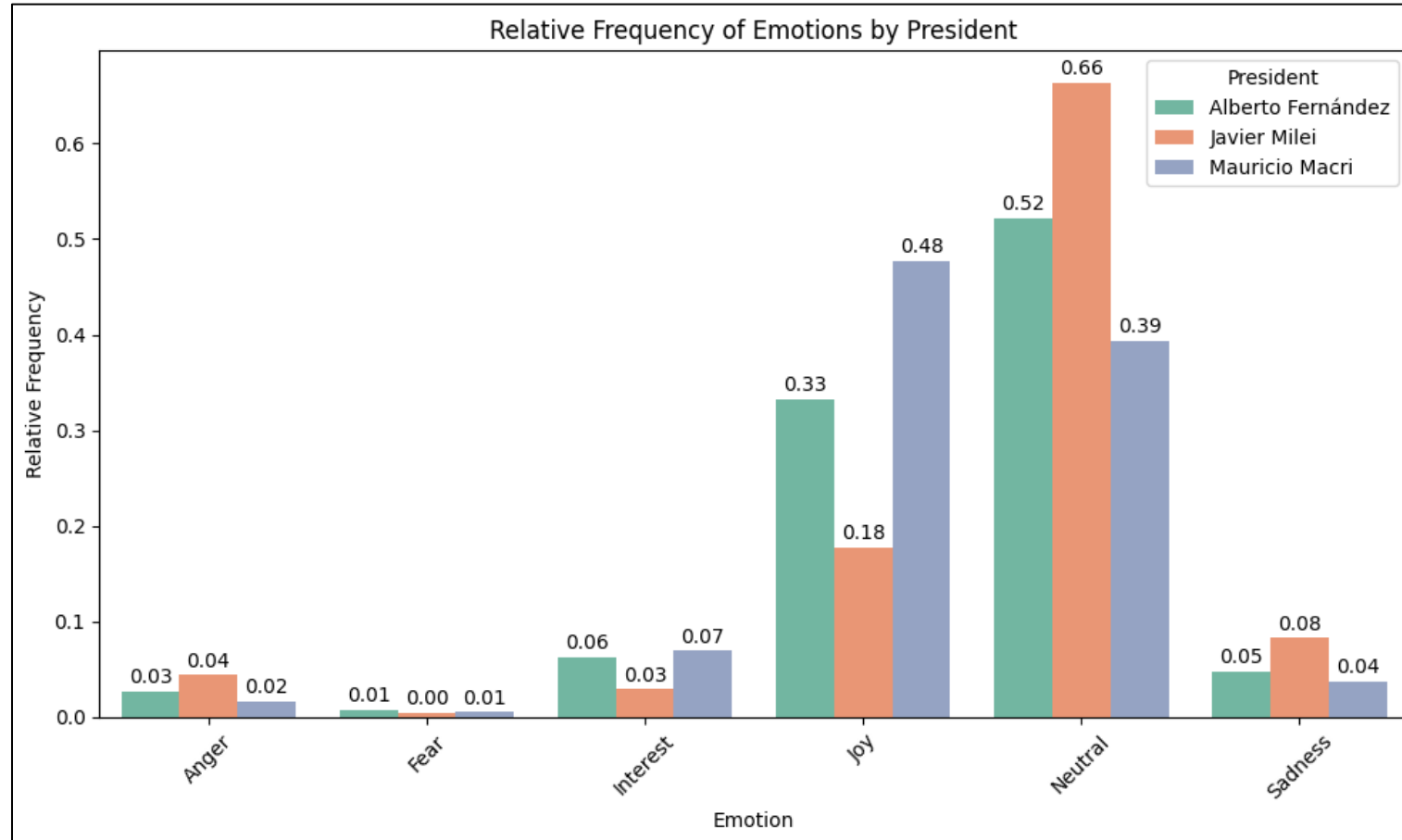
Results - Context



Main topics:

- **Mauricio Macri:**
Inflation
- **Alberto Fernández:**
Inflation and COVID-19
- **Javier Milei:**
Traditional politicians and
economic recovery.

Results - Emotions

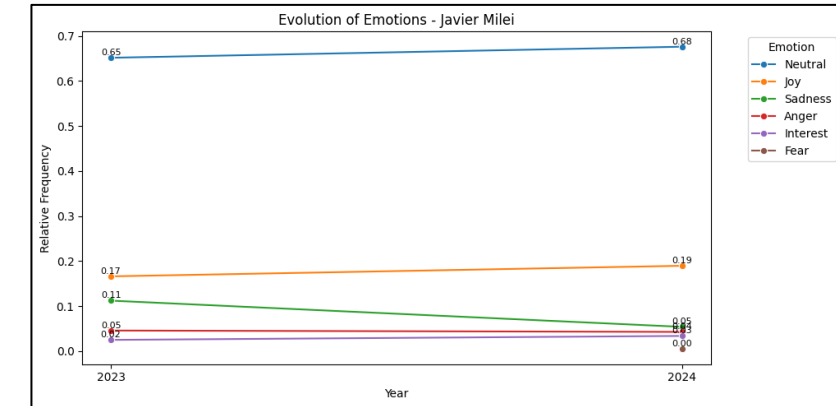
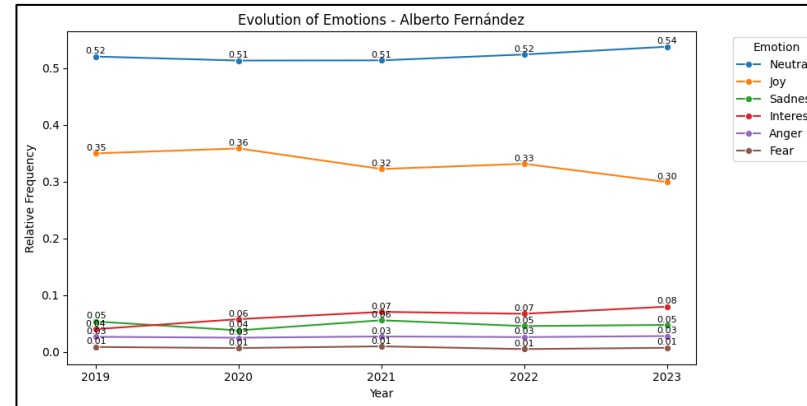
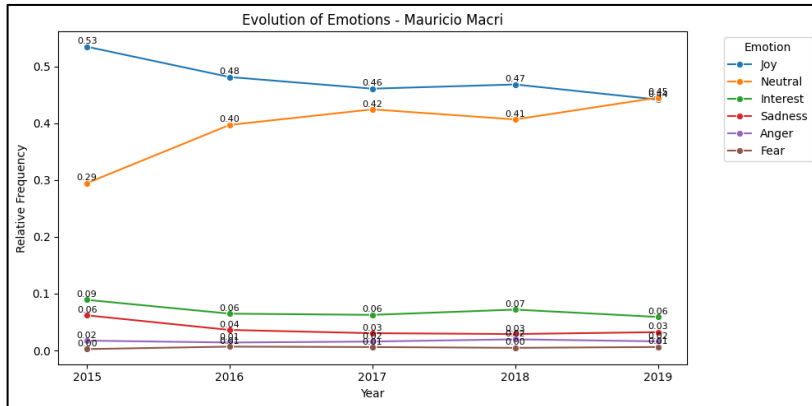


Alberto Fernández

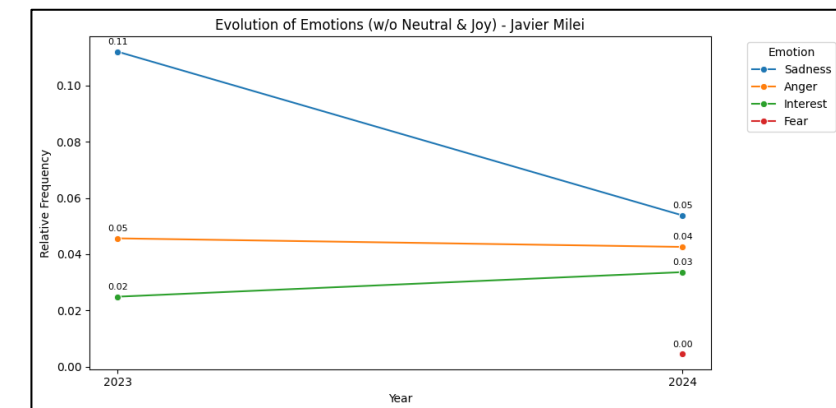
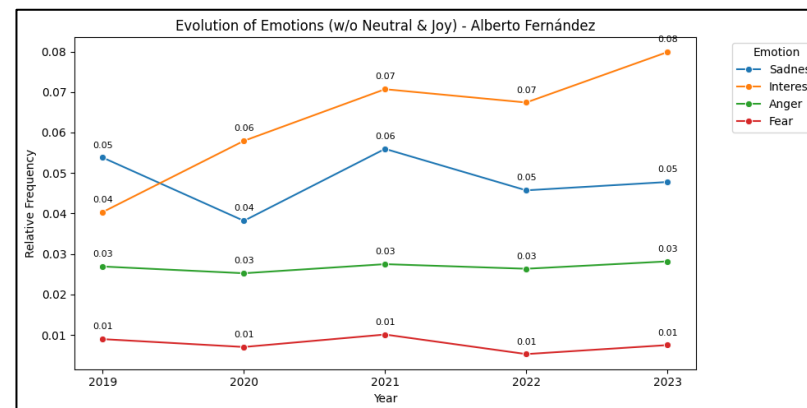
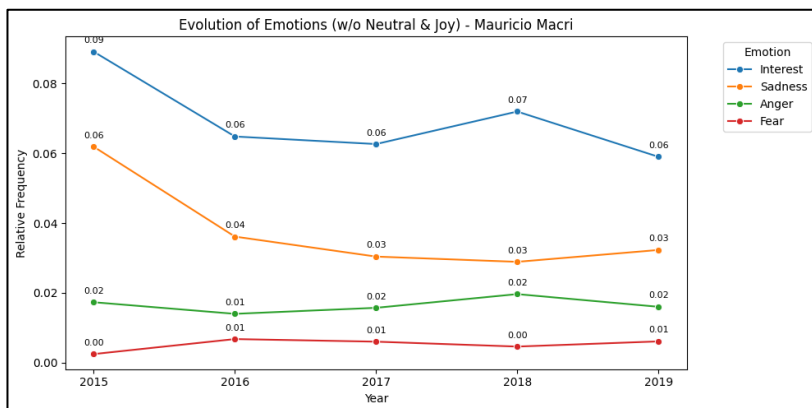
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Results – Evolution of Emotions

- Evolution of all **emotions** by president.



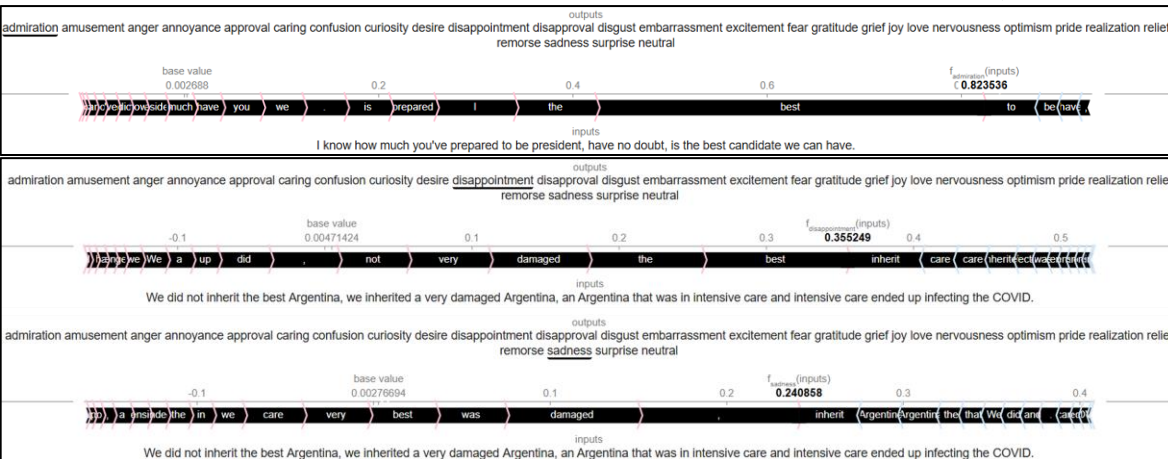
- Evolution of **emotions (without Joy and Neutral)** by president.



Results – Explainability

Mauricio Macri:

- **Anger** → Blames previous government.
- **Interest** → Highlights the importance of continuing with a similar ideology rather than going back to past ideologies.



Alberto Fernández:

- **Joy** → Admiration to next candidate (Sergio Massa).
- **Sadness** → COVID-19 and blaming previous government.

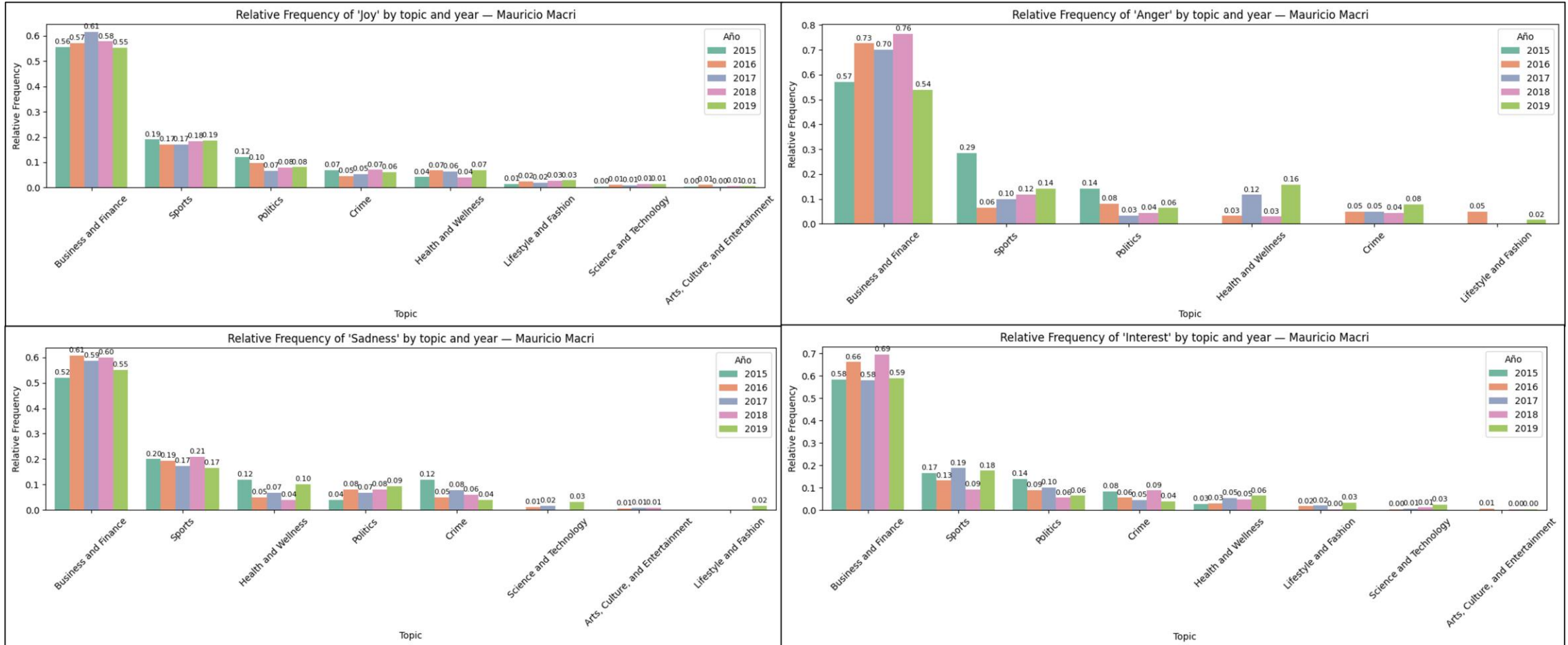
Javier Milei:

- **Joy** → Admiration to businessmen.
- **Sadness** → Blams previous government and politics.



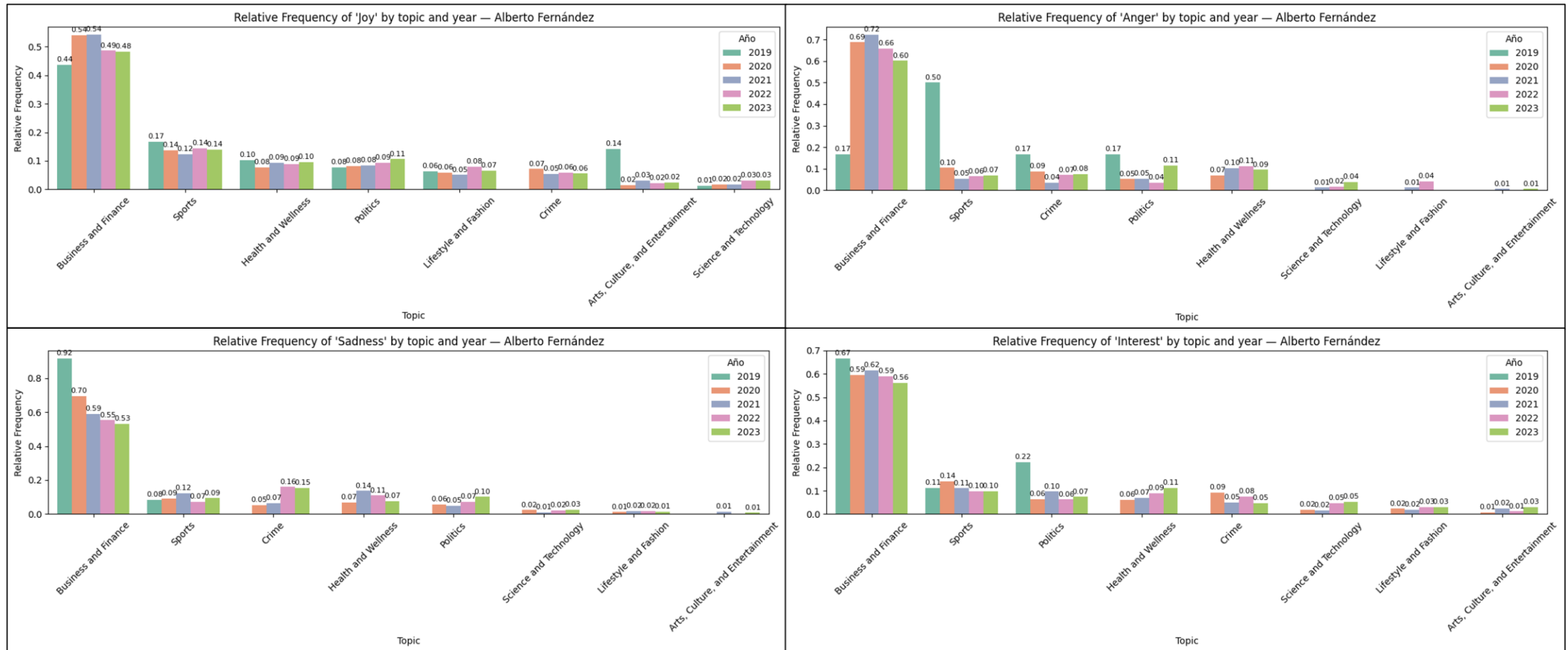
Results – Topic Classification

Mauricio Macri



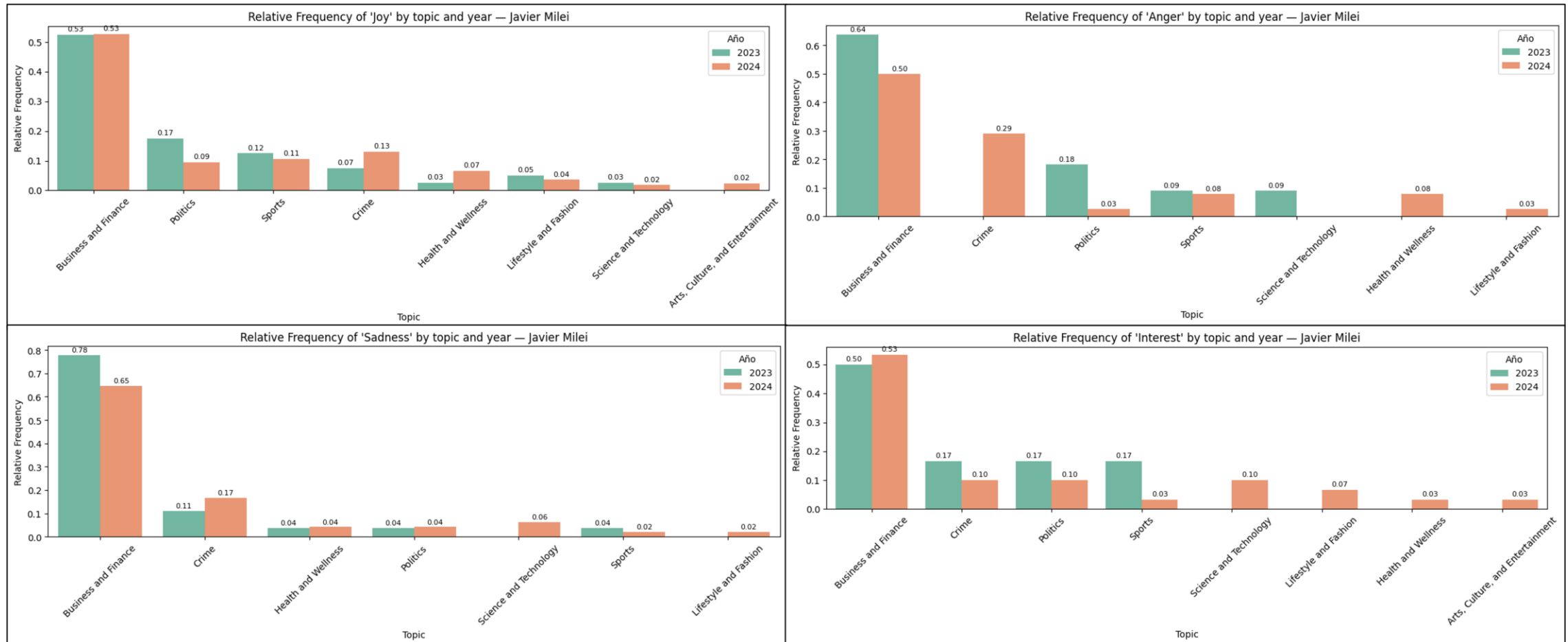
Results – Topic Classification

Alerto Fernández



Results – Topic Classification

Javier Milei



Conclusion

Data limitation.



Emotion is not accidental
(political strategy).

Macri and Fernández exhibited a traditional
Argentine political behavior.



Milei adopted a more confrontational
yet strategically neutral tone.



THANK YOU!

Franco Reinaldo Bonifacini (41540A)