



Final Project: Methods

E404 - Natural Language Processing

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In my final project, I have refined the original theme, which initially addressed "Economic Uncertainty and Mental Health," towards a more specific and detailed focus: "The Linguistic Style of Economic Uncertainty." This adaptation allows me to analyze people's language in a continuous and more detailed manner, rather than using a more specific classifier-based approach.

To address this question, I have gathered data from six different sources: Reddit (including posts and their comments), Online Newspapers (headlines and complete articles) and YouTube (video titles and transcripts of subtitles). The chosen sources for each datapoint have been carefully thought through. For Reddit the top 5 Argentine subreddits are being taken into account, the data will be extracted from the-eye organization. For Online Newspapers the 6 most read papers are being analyzed, where two are more specific towards economics. These will be extracted with web scraping using: Scrapy, Selenium and BeautifulSoup. Finally, for Youtube we have chosen both national and provincial level official channels, as well as an official tv channel, and the 5 most popular Tv News Channels. For these, a headless python API will be used which allows you to get the transcripts/subtitles for a given YouTube video, which also works for automatically generated subtitles(<https://pypi.org/project/youtube-transcript-api/>). All the specific subreddits, newspapers, and youtube channels selected have been specified in tables 1, 2 and 3 respectively.

The range of data I will be studying spans from January 2018 to December 2022. This timeframe encompasses a period of significant economic events and fluctuations, allowing for a comprehensive analysis of language responses to economic uncertainty in the Spanish-speaking community. Including a change in presidency and 2 years prior and after COVID-19. In Table 3, note that there are some channels highlighted in red, this means they are not going to be included since they do not fit the time period.

To analyze the data, I plan to employ a combination of natural language processing techniques, inspired from Khalid, O., & Srinivasan, P. (2020). “Style Matters! Investigating Linguistic Style in Online Communities”: Readability(ARI, CLI, etc.), Parts of Speech Frequencies(verbs, nouns, etc.) , Character Frequencies(white space, punctuations, etc.) and Word level features(LIWC, Simpson’s Index, etc.)

The primary hypothesis I am making is that there will be observable shifts in the linguistic style of discussions related to economic uncertainty over time. I expect that during periods of economic instability, there will be an increase in negative sentiment and the usage of specific economic terms related to uncertainty. Conversely, during periods of economic stability, I anticipate a more positive sentiment and a different set of terms used in discussions. In a second stage, this research seeks to examine the potential relationship with depression like language.

AUXILIAR RESOURCES:

TABLE 1.

Sub Reddits	Url
r/argentina	https://www.reddit.com/r/argentina/
r/RepublicaArgentina	https://www.reddit.com/r/RepublicaArgentina/
r/AskArgentina	https://www.reddit.com/r/AskArgentina/
r/ArgenGaming	https://www.reddit.com/r/ArgenGaming/
r/dankgentina	https://www.reddit.com/r/dankgentina/

TABLE 2.

News Papers	Url
Infobae	https://www.infobae.com
La Nacion	https://www.lanacion.com.ar
Clarín	https://www.clarin.com
Pagina 12	https://www.pagina12.com.ar
Ambito Financiero	https://www.ambito.com
El Cronista	https://www.cronista.com

TABLE 3.

Youtube Channels	Category	URL
Casa Rosada	Repblic Goverment Argentina	https://www.youtube.com/@casarosada
Senado	Repblic Goverment Argentina	https://www.youtube.com/@SenadoTVArgentina
Diputados	Repblic Goverment Argentina	https://www.youtube.com/@diputados.argentina
Poder Judicial	Repblic Goverment Argentina	https://www.youtube.com/@pjn-videoconferencias
Ministerio de Ambiente y Desarrollo Sostenible	Government Ministries	https://www.youtube.com/@ministeriodeambienteydesar2599
Ministerio de Ciencia, Tecnología e Innovación	Government Ministries	https://www.youtube.com/@MinisterioDeCiencia
Ministerio de Cultura	Government Ministries	https://www.youtube.com/@culturaargentina
Ministerio de defensa	Government Ministries	https://www.youtube.com/@Mindefargentina
Ministerio de desarrollo Social	Government Ministries	https://www.youtube.com/@MDSNacion
Ministerio de desarrollo Territorial y Hábitat	Government Ministries	https://www.youtube.com/@minhabitat
Ministerio de Economía	Government Ministries	https://www.youtube.com/@MinisteriodeEconomiaAR
Ministerio de Educación	Government Ministries	https://www.youtube.com/@educacionar
Ministerio del Interior	Government Ministries	https://www.youtube.com/@MinisteriodelInteriorAR
Ministerio de Justicia y derechos Humanos	Government Ministries	https://www.youtube.com/@MinisteriodeJusticiayDDHH
Ministerio de Las Mujeres, Géneros y Diversidad	Government Ministries	https://www.youtube.com/@MinGenerosAR
Ministerio de Obras Públicas	Government Ministries	https://www.youtube.com/@ObrasPublicasAr
Ministerio de Relaciones Exteriores, Comercio Internacional y Culto	Government Ministries	https://www.youtube.com/@CancilleriaARG
Ministerio de Salud	Government Ministries	https://www.youtube.com/@MsalNacion
Ministerio de Seguridad	Government Ministries	https://www.youtube.com/@minseg
Ministerio de Trabajo, Empleo y Seguridad Social	Government Ministries	https://www.youtube.com/@mintrabajo
Ministerio de Transporte	Government Ministries	https://www.youtube.com/@MinisteriodeTransporteArg
Ministerio de Turismo y deportes	Government Ministries	https://www.youtube.com/@TurismoNacionAR
Provincia Buenos Aires	Provincial Government	https://www.youtube.com/@BAProvincia
Ciudad Autónoma de Buenos Aires	Provincial Government	https://www.youtube.com/@GCBA
Provincia Catamarca	Provincial Government	https://www.youtube.com/@GobiernodeCatamarca

Provincia Chaco	Provincial Government	https://www.youtube.com/@ChacoGobiernodeTodos
Provincia Chubut	Provincial Government	https://www.youtube.com/@gobiernochubut3215
Provincia Córdoba	Provincial Government	https://www.youtube.com/@GobCordobaok
Provincia Corrientes	Provincial Government	https://www.youtube.com/@GobiernodeCorrientess
Provincia Entre Ríos	Provincial Government	https://www.youtube.com/@GobiernoER
Provincia Formosa	Provincial Government	https://www.youtube.com/@GobiernodeFormosaOficial
Provincia Jujuy	Provincial Government	https://www.youtube.com/@GobiernodeJujuyOK
Provincia La Pampa	Provincial Government	Doesnt Have a Youtube Channel
Provincia La Rioja	Provincial Government	https://www.youtube.com/@GobiernoDeLaRiojaES
Provincia Mendoza	Provincial Government	https://www.youtube.com/@mendozagob
Provincia Misiones	Provincial Government	https://www.youtube.com/channel/UckvikZrVh7Gp1yLAWUYPLNg
Provincia Neuquén	Provincial Government	https://www.youtube.com/@NeuquenProvincia
Provincia Río Negro	Provincial Government	https://www.youtube.com/@rionegrogob
Provincia Salta	Provincial Government	https://www.youtube.com/@GobiernodeSaltaOficial
Provincia San Juan	Provincial Government	https://www.youtube.com/@sisanjuanok
Provincia San Luis	Provincial Government	https://www.youtube.com/@sanluisgobierno
Provincia Santa Cruz	Provincial Government	https://www.youtube.com/@santacruz1495
Provincia Santa Fe	Provincial Government	https://www.youtube.com/@gobsantafe
Provincia Santiago del Estero	Provincial Government	https://www.youtube.com/@gobiernodesantiagodelesteros
Provincia Tierra del Fuego	Provincial Government	https://www.youtube.com/@gobiernotierradelfuego1540
Provincia Tucumán	Provincial Government	https://www.youtube.com/@prensatucuman
TV Publica	National TV Channel	https://www.youtube.com/@TVPublicaArgentina
TN	News Channel	https://www.youtube.com/@todonoticias
La nacion +	News Channel	https://www.youtube.com/@lanacion
Cronica	News Channel	https://www.youtube.com/@cronicatv
A24	News Channel	https://www.youtube.com/@A24com
C5N	News Channel	https://www.youtube.com/@c5n