



# ArtRecommender

*Monica Ramirez - Metis Spring 2018*



# Motivación/Inspiración



Woman, Birds and Stars  
Miro, 1944



Miro, 1927



Picasso, 1936

# Motivación/Inspiración



Woman, Birds and Stars  
Miro, 1944



Miro, 1927



meh.



Picasso, 1936



meh.



Japanese, 16th cent.



# Motivación/Inspiración



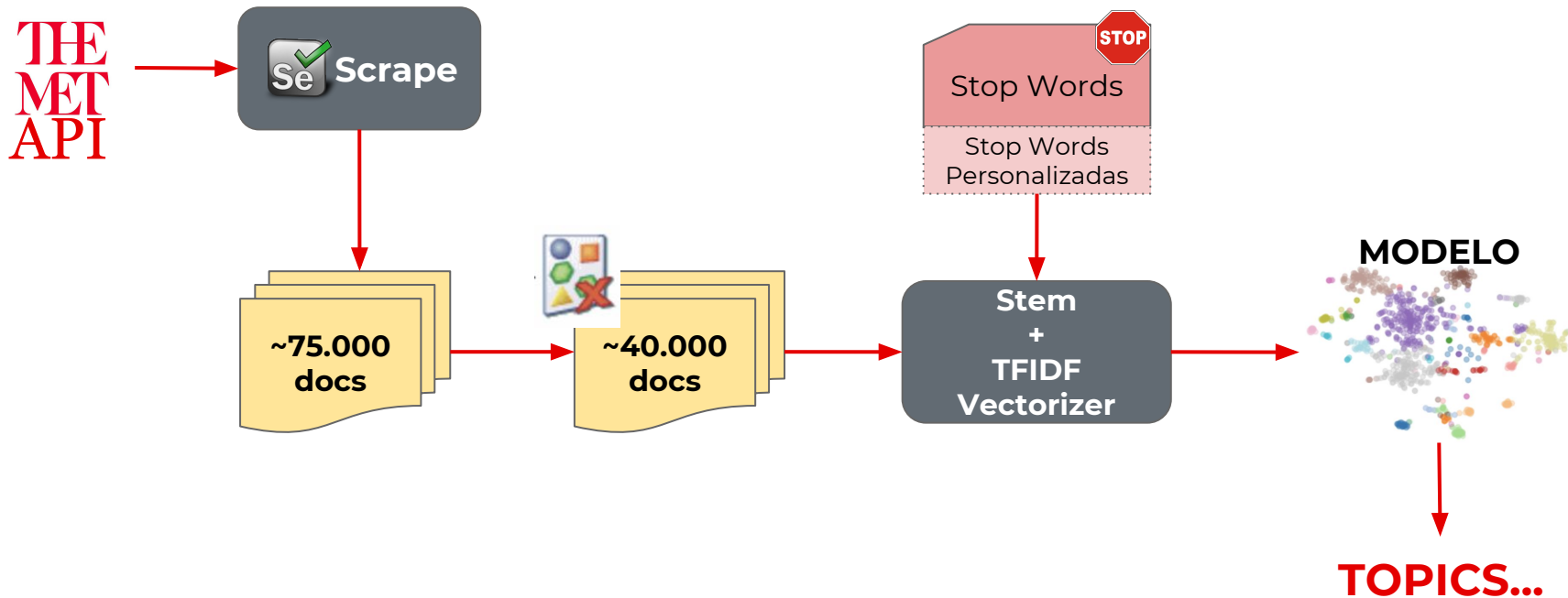
Woman, Birds and Stars  
Miro, 1944

In August 1939, one month before the outbreak of **World War II**, Miró moved with his wife to Varengeville in Normandy, France. During the Nazi occupation, Miró created a series of gouaches, the **Constellations**, on which this painting is based. André Breton described Miró's **faces, stars, wings, lines, and crescents** as "outside the world and outside time, too."

On a **light-colored ground**, Miró has laid down **thick black bars** that lyrically intersect one another to vaguely convey a **face**. Around the lines are **smudges, smears and spatters** of different **colors**

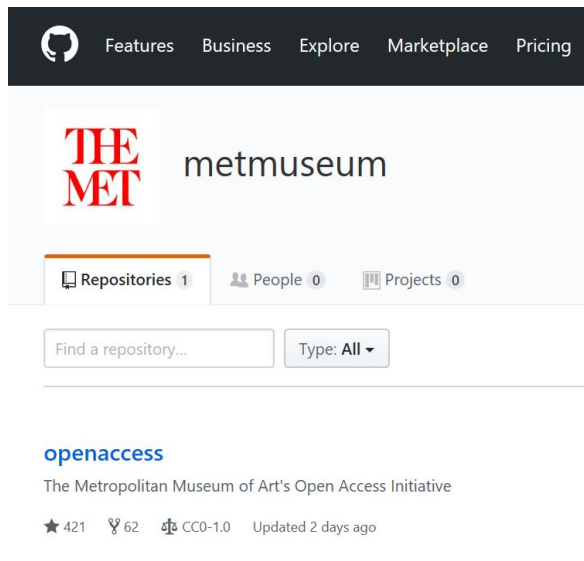
# Proceso para el MET

*Oil on Canvas*



# Scraping para el MET

*Oil on Canvas*



'Object Number'  
'Is Highlight'  
'Is Public Domain',  
'Department'  
'Title',  
'Culture'  
'Period'  
'Dynasty',  
'Artist Prefix',  
'Artist Display Name'  
'Artist Display Bio'

'Artist Suffix',  
'Artist Nationality',  
'Artist Begin Date',  
'Artist End Date',  
'Object Date',  
'Object Begin Date',  
'Object End Date',  
'Medium',  
'Dimensions',  
'Geography',  
'Rights and Reproduction',  
'Link Resource'



# Scraping para el MET



Browse the Collection



## Adoration of the Magi from Seven Scenes from the Life of Christ

Date:	ca. 1390
Geography:	Made in Lower Austria, Austria
Culture:	Austrian
Medium:	Pot-metal and colorless glass, vitreous paint and silver stain
Dimensions:	27 5/16 x 12 15/16in. (69.4 x 32.8cm)
Classification:	Glass-Stained
Credit Line:	The Cloisters Collection, 1986
Accession Number:	1986.285.2

On view at The Met Cloisters in [Gallery 09](#)

This panel which is part of a larger ensemble was commissioned for the private chapel in the castle of Ebreichsdorf, south of Vienna. Originally, there were eighteen scenes, some extending across two lights of the windows. Except for one panel in Vienna, The Cloisters panels are all that survive. The royal atelier responsible for the glass was established in Vienna, where its early work can be seen in the Church of Maria am Gestade, of about 1365, and in the ducal chapel at the Cathedral of Saint Stephen, of about 1395. The elegant figures, richly damascened background, as well as the wealth of detail and the brilliant palette that enrich the settings, are all characteristic of this court workshop.

```
1 <header class="masthead" main-nav>
2 <div class="primary-column">
3   <section class="artwork-info">
4     <div class="component component_artwork-info">
5       <h1 class="artwork_object-title">Adoration of the Magi from Seven Scenes from the Life of Christ
6     </h1>
7     <div class="artwork_tombstone">
8       <p class="artwork_tombstone--row">
9         <span class="artwork_tombstone--label">Date:</span>
10        <span class="artwork_tombstone--value">ca. 1390</span>
11      </p>
12      <p class="artwork_tombstone--row">
13        <span class="artwork_tombstone--label">Geography:</span>
14        <span class="artwork_tombstone--value">Made in Lower Austria, Austria</span>
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21      <p class="artwork_tombstone--row">
22        <span class="artwork_tombstone--label">Dimensions:</span>
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24      </p>
25    </div>
26    <div class="artwork_label">
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34      palette that enrich the settings, are all characteristic of this court workshop.
35    </div>
36  </div>
37 </section>
38
39 <div class="component component_accordions">
40   <section class="accordion">
41     <div class="accordion_content">
42       From the Infancy of Christ window, choir of the castle chapel (the Schlosskapelle) at
43       Ebreichsdorf, south of Vienna.; Lolowrat-Liebsteinsky, Ebreichsdorf (1843-1873) ; Count
44       Joseph Arco-Zinneberg, Ebreichsdorf (1873-1922) ; [ Duveen Brothers, London, Paris and New
45       York] ; Mrs. Alexander Hamilton Rice, New York (1923-1957) ; Smithsonian American Art Museum,
46       Washington. DC (1957-1986)
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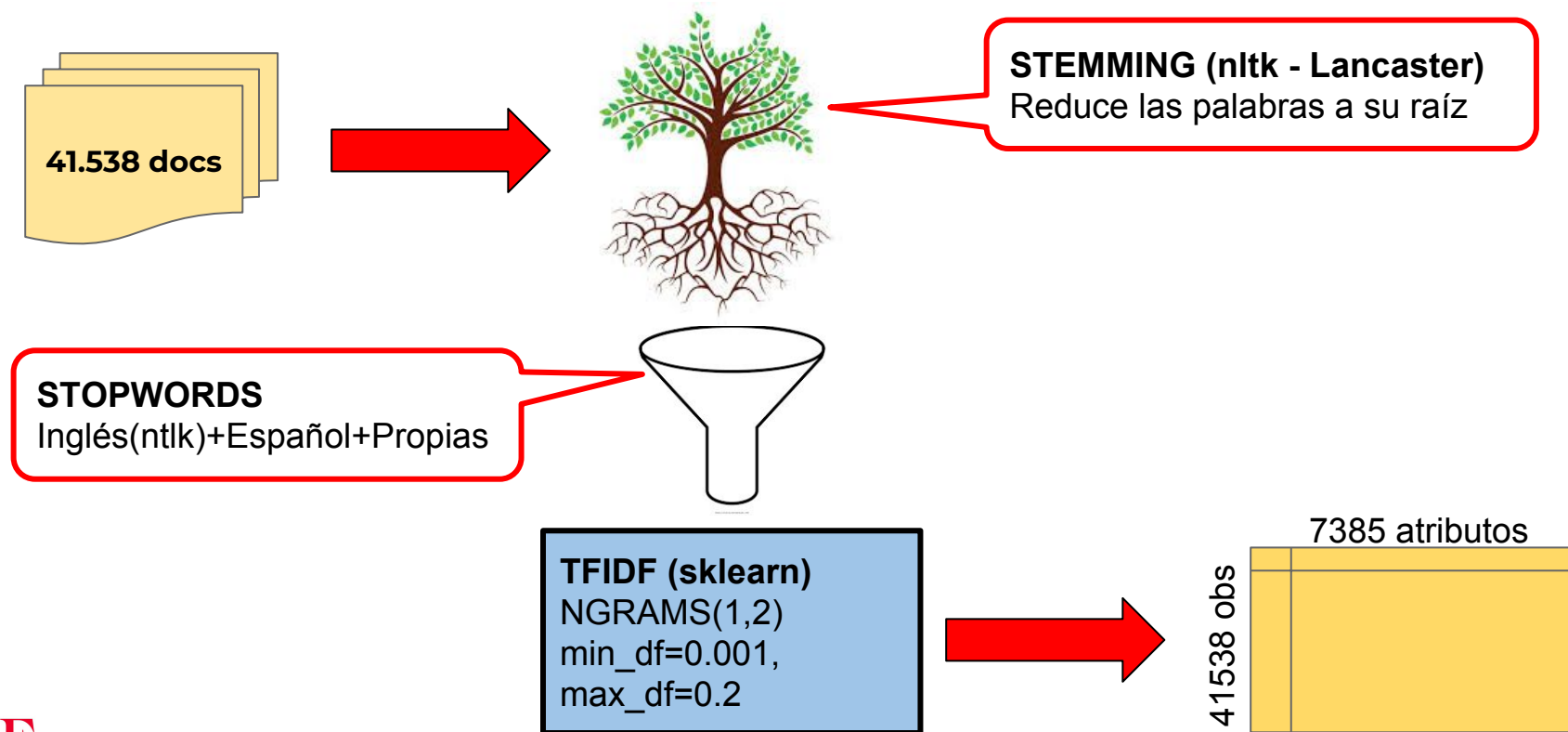
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46       York] ; Mrs. Alexander Hamilton Rice, New York (1923-1957) ; Smithsonian American Art Museum,
47       Washington, DC (1957-1986)
```



# Preparación de Datos para el MET



# Topics para el MET (NMF)

0	1	2	3	4	5	6	7	8	9
decorate	leaves	long	des	Saint	etching	dark	nature	cards	design
bottom	flowers	wears	fashion	China	haden	renaissance	american	issued	gold
plate	stylized	new	et	Dynasty	source	Greece	native	set	jewel
venice	branches	dress	paris	Pope	state	time	cherokee	trade	stone
pattern	thin	woman	modes	Virgin	line	Raphael	horse	company	enamel
cup	nature	hat	dames	life	book	venice	mayan	number	glass
design	fine	hair	blue	Emperor	hand	nude	forest	gum	diamond

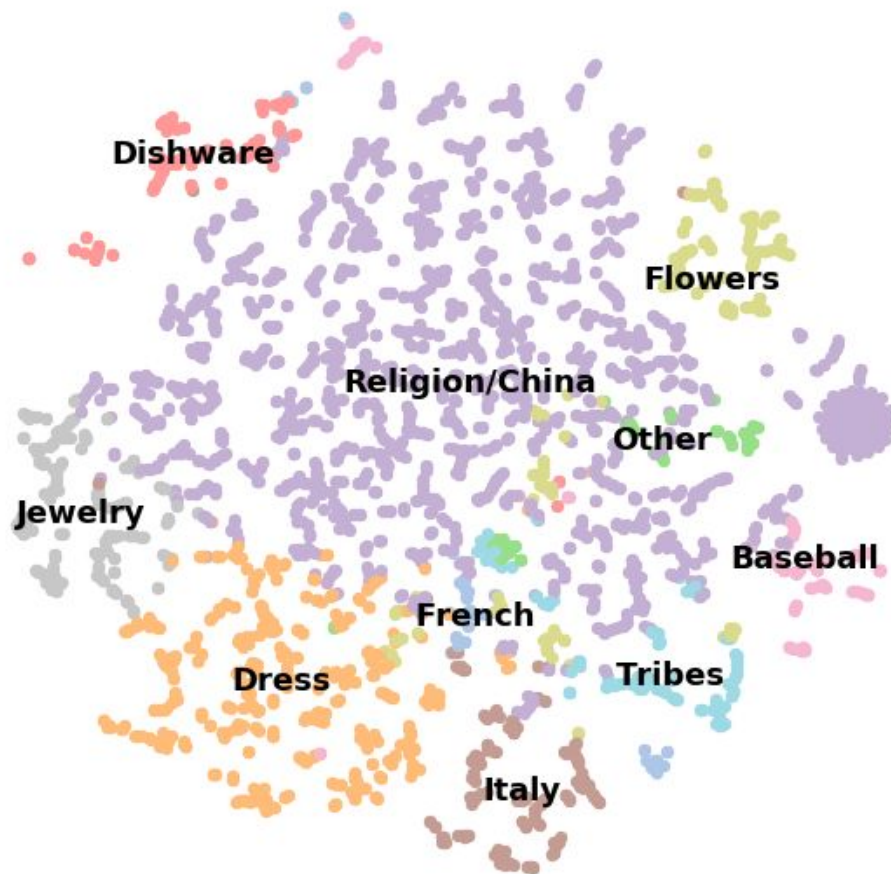
...

# Topics para el MET

vajilla	Natural eza	vestido	francia	Relig. China	Otro	Italia	Indigenas	Baseball	Joyas
decorate	leaves	long	des	Saint	etching	dark	nature	cards	design
bottom	flowers	wears	fashion	China	haden	renaissance	american	issued	gold
plate	stylized	new	et	Dynasty	source	Greece	native	set	jewel
venice	branches	dress	paris	Pope	state	time	cherokee	trade	stone
pattern	thin	woman	modes	Virgin	line	Raphael	horse	company	enamel
cup	nature	hat	dames	life	book	venice	mayan	number	glass
design	fine	hair	blue	Emperor	hand	nude	forest	gum	diamond

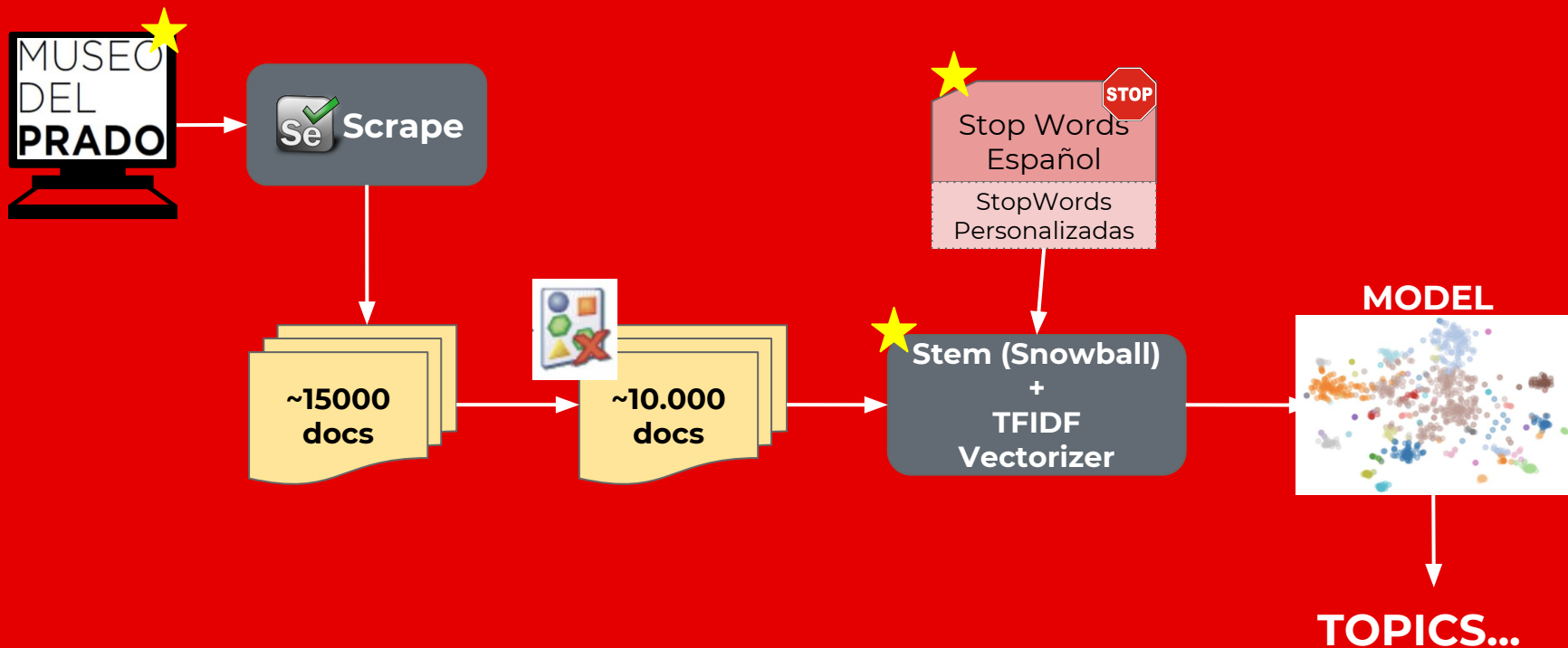
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# Topics para el MET



# Proceso para el Prado

*Oleo sobre Lienzo*





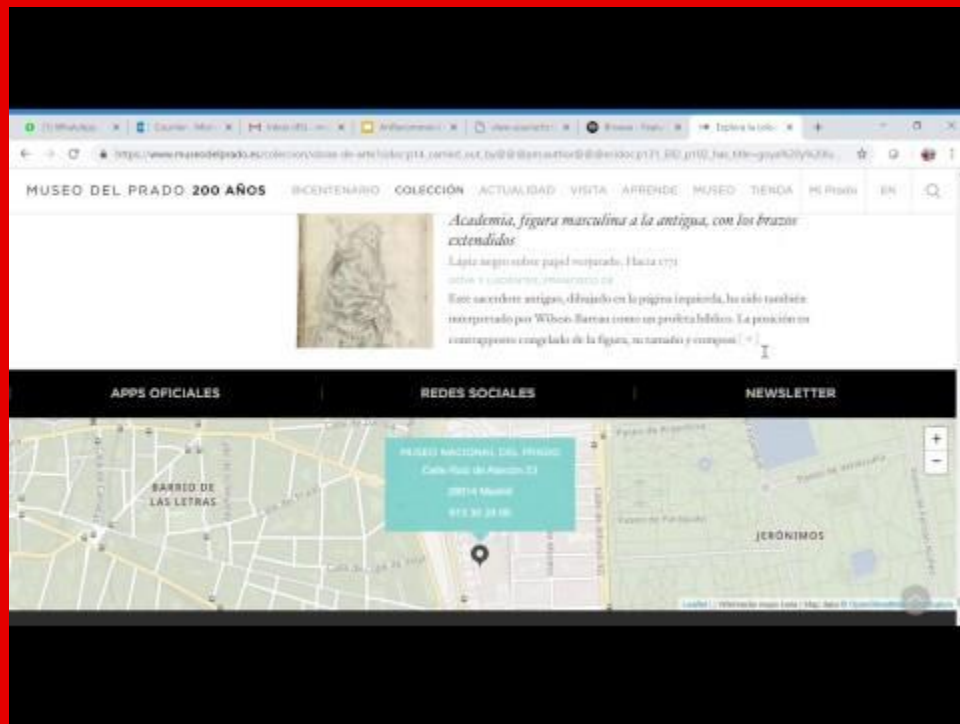
# Scraping para el Prado

*Oleo sobre Lienzo*

```
chromedriver = "/Users/monita/drivers/chromedriver"  
os.environ["webdriver.chrome.driver"] = chromedriver  
driver = webdriver.Chrome(chromedriver)
```

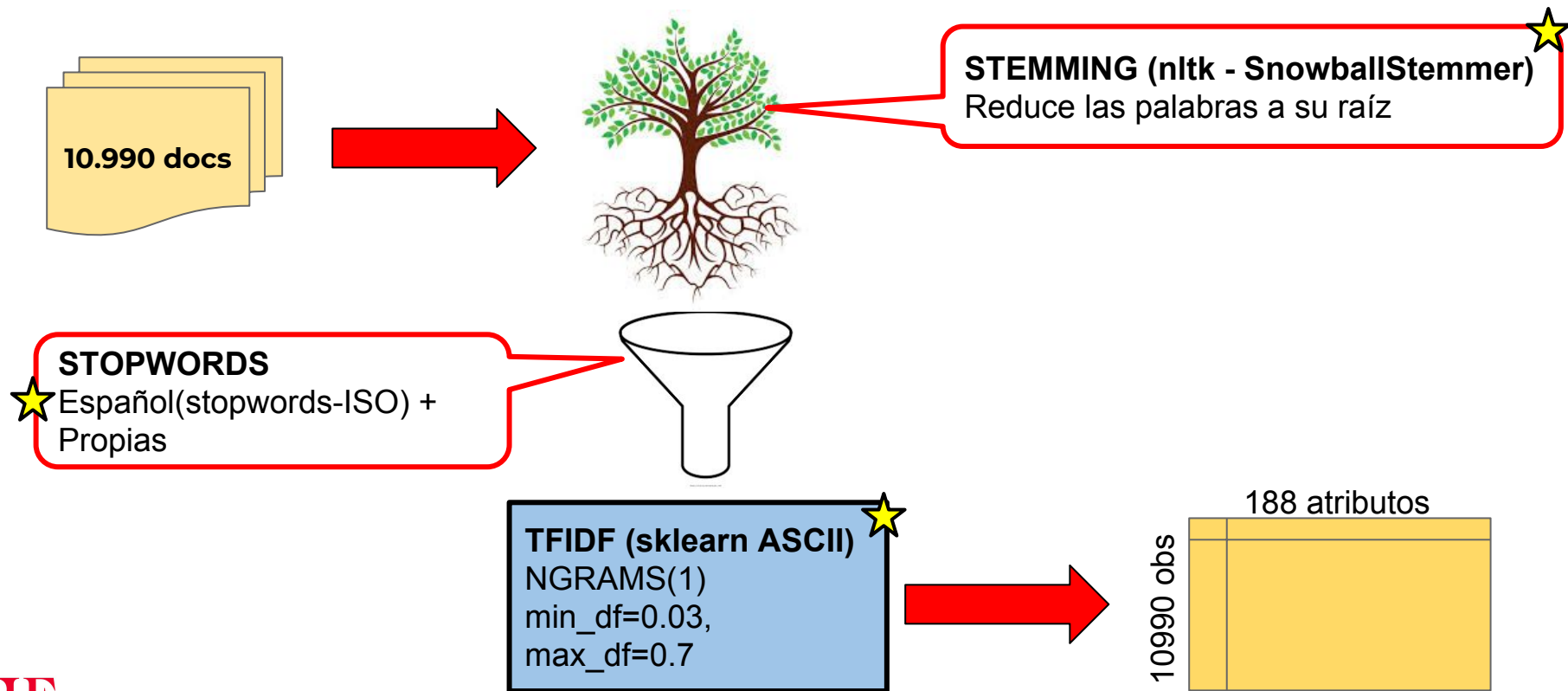
```
loop_counter = 0  
driver.get("http://www.museodelprado.es/coleccion/obras-de-arte")  
time.sleep(5)  
while loop_counter < 1000:  
    scroll = driver.find_element_by_tag_name('body')  
    scroll.send_keys(Keys.PAGE_DOWN)  
    time.sleep(2)  
    loop_counter+=1
```

```
url_list = []  
soup = BeautifulSoup(driver.page_source,"html5lib")  
lista_ref = soup.findAll(class_="presentacion-mosaico")  
for r in lista_ref :  
    url_list.append(r.find("a").get('href'))
```



*Video*

# Preparación de Datos para el Prado



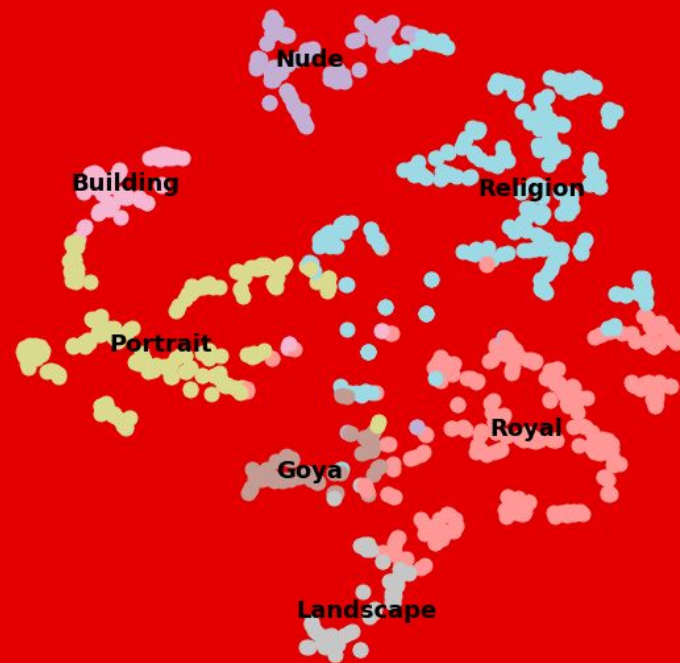
# Topics para el Prado

0	1	2	3	4	5	7
san	marques	carlos	arnaez	goya	sanchez	rey
virgen	atribucion	gutierrez	cabeza	castillo	perez	felipe
santo	mano	cielo	zaragoza	jose	alfonso	palacio
iglesia	calidad	paisaje	toledo	mariano	mano	espana
juan	sentada	arboles	catedral	salvador	pie	real
santa	nino	nubes	palacio	pluma	desnudo	rubens
cristo	virgen	luz	femenina	francisco	manos	maria
francisco	reverso	paso	manos	negro	angeles	reina
nino	sentado	paisajes	real	mujer	cabeza	orden
retablo	pluma	natural	brazo	forma	sentado	historia

# Topics para el Prado

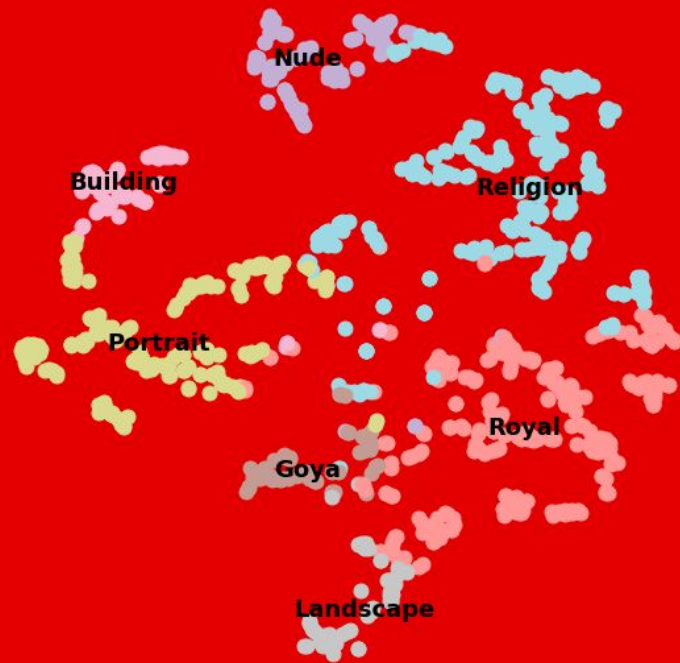
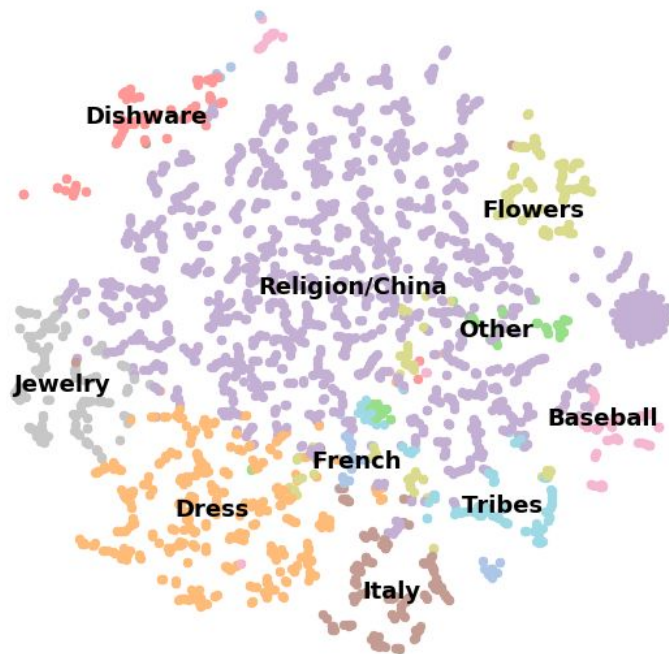
Religión	Retrato	Paisaje	Edificios	Goya	Desnudo	Realeza
san	marques	carlos	arnaez	goya	sanchez	rey
virgen	atribucion	gutierrez	cabeza	castillo	perez	felipe
santo	mano	cielo	zaragoza	jose	alfonso	palacio
iglesia	calidad	paisaje	toledo	mariano	mano	espana
juan	sentada	arboles	catedral	salvador	pie	real
santa	nino	nubes	palacio	pluma	desnudo	rubens
cristo	virgen	luz	femenina	francisco	manos	maria
francisco	reverso	paso	manos	negro	angeles	reina
nino	sentado	paisajes	real	mujer	cabeza	orden
retablo	pluma	natural	brazo	forma	sentado	historia

# Topic match



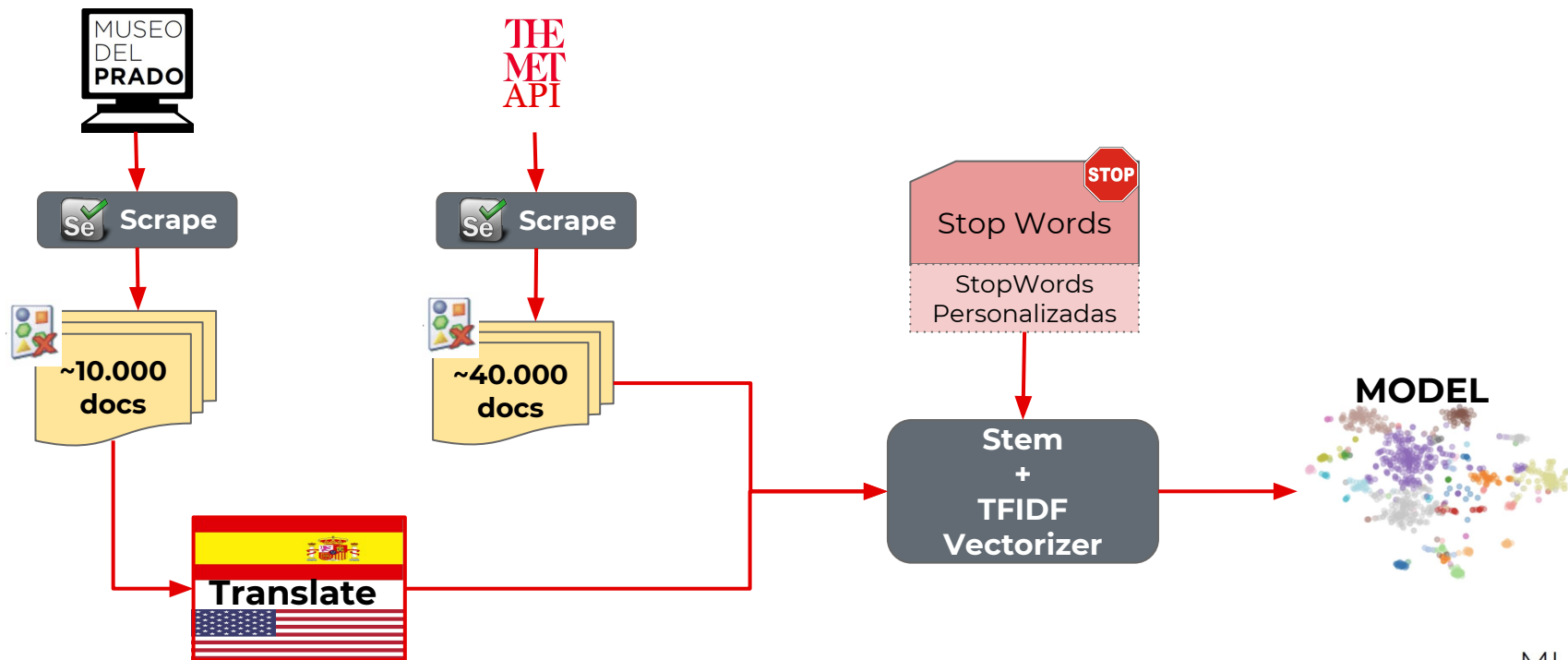


# Topic match



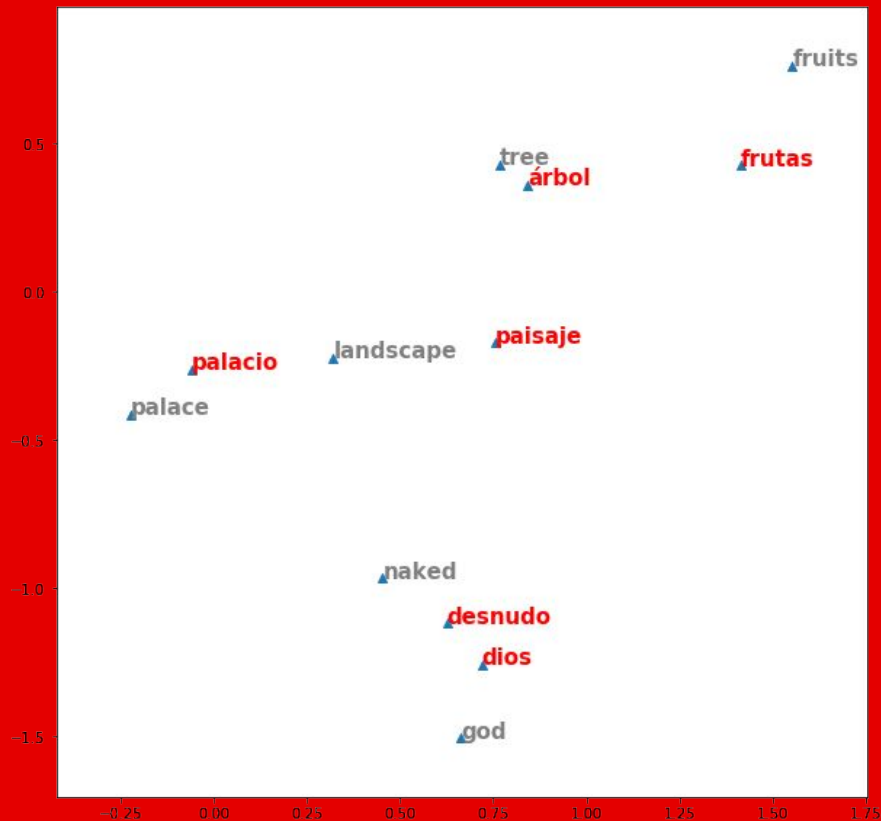
# Proceso para Modelo Conjunto

*Exhibición Especial*



# Traducción (Word2Vec - MUSE)

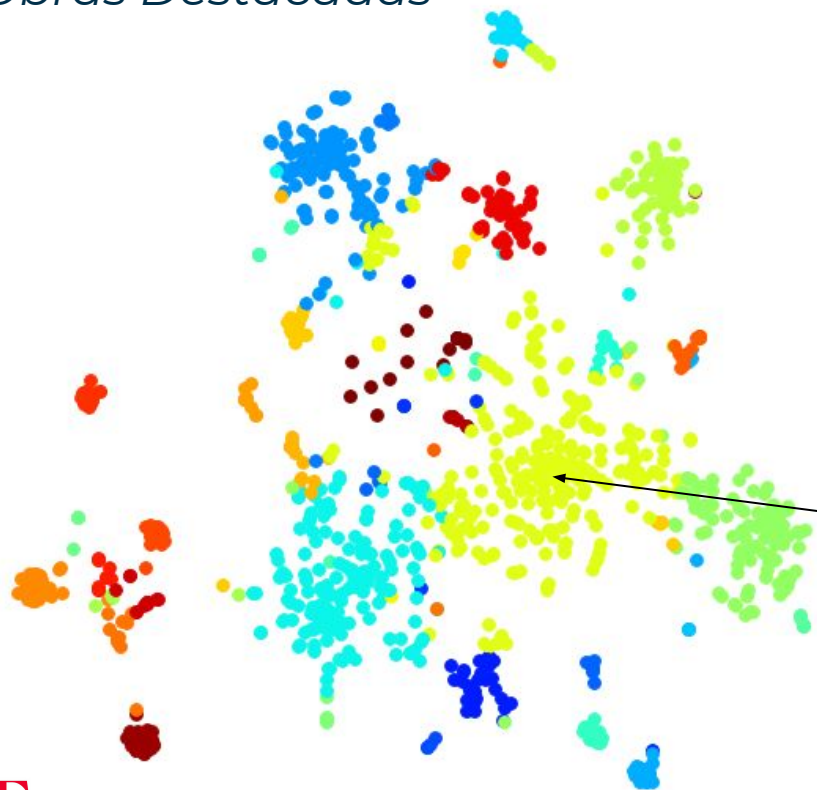
*Bienvenido/Welcome*



**MUSE:**  
Multilingual Unsupervised or  
Supervised word Embeddings

# Topics (Sin nombre)

*Obras Destacadas*



**Modelo:** TFIDF (sklearn)

NGRAMS(1,2)

min\_df=0.01,

max\_df=0.2

Features: 1'140.527

**Topics: 37**

**Ejemplo:** (saint), (christ), (virgin), (church),  
(john), (panel), (saint john), (altarpiece),  
(child), (hand)

# Sistemas de Recomendación

## Basado en Contenido

*Obras*

Productos patrocinados relacionados con este artículo (¿Qué es esto?)



Recommender:

- Cosine Similarity
- Content based
- Filter artist

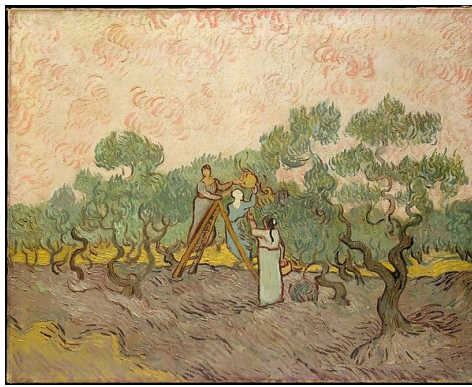
## Basado en Usuarios

*Visitantes*

Los clientes que compraron este producto también compraron







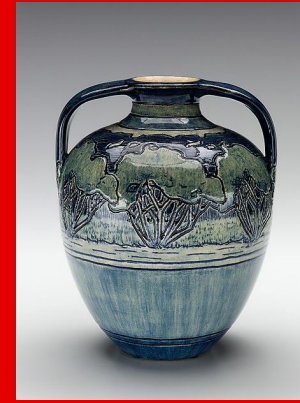
**Women Picking Olives**

Vincent Van Gogh (1889)

Pintura

MET - Galería 822

(...) solemn tones using **blue and gray** for the tree **foliage**" (...) was intended for his **sister and mother**, (...) sent a drawing of the **olive trees** to Gauguin..."



**Vase**

Mary Frances Baker (1906)

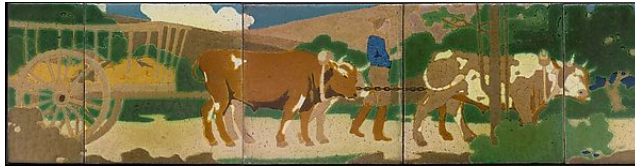
Ceramica

MET - Galería 707

(...) her **brother** William Woodward (...) a combination of **blues and gray** became her distinctive hallmark (...) features a design of spreading crepe **myrtle trees** and horizontal banding (...) the **foliage** has been **colored green, blue** dominates..."



Women picking Olives, 1889



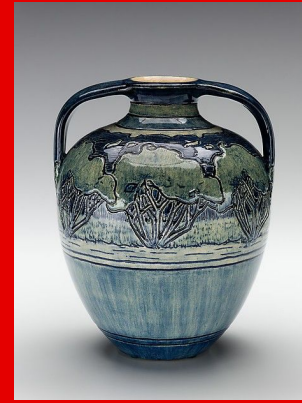
Five-tile frieze, 1906



Chandelier, 1907



Ladies of the Court Hunting, 1889



Vase, 1906



Paisaje (Olivos), 1862



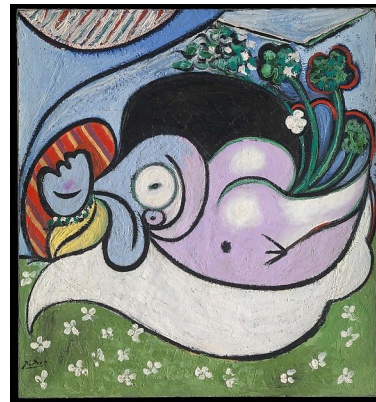
**La Maja Desnuda**

Francisco de Goya (1790)

Pintura

Museo del Prado

(...) posee aire **sensual** toma como **musa** la diosa de la **fertilidad** Venus **tendida** sobre el lecho. (...) *"Una **mujer desnuda** de Goya pero sin gracia en el **colorido** (...) leyenda de una **amante** de Goya como la duquesa (...) en esos años, con **jovenes** tendidas en el lecho..."*



**The Dreamer**

Pablo Picasso (1932)

Pintura

MET

(...) the subject of this **sensuous** painting (...) he became his **lover** and **muse** soon after. While the **young, naked, female** form was not new (...) saturated, **coloful**, used to depict Marie-Thérèse (...) presents her **lying** figure as something resembling an ancient **fertility** object...."





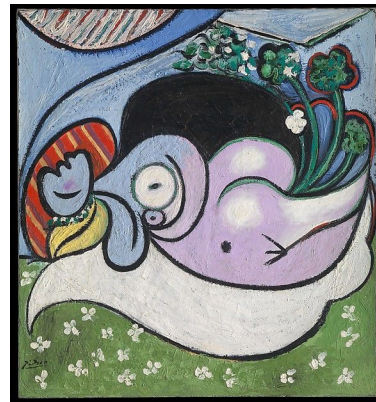
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Pintura

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**The Dreamer**

Pablo Picasso (1932)

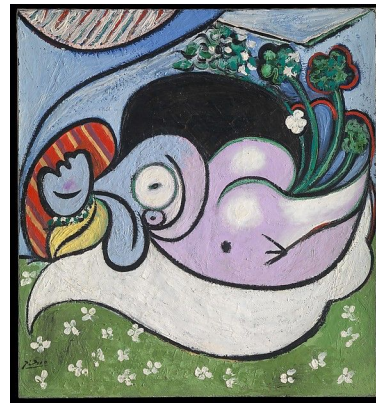
Pintura

MET

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La Maja Desnuda, 1720



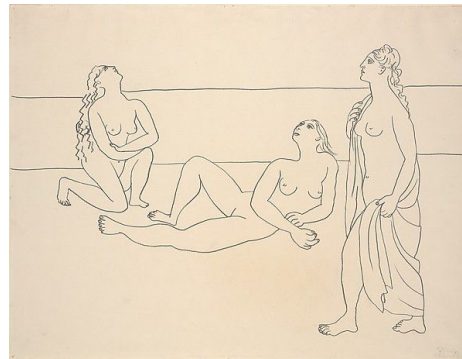
The Dreamer, 1932



The Death of Socrates, 1786



Viejo desnudo al Sol, 1871



Three Bathers by the Shore, 1920



Nude Standing by the Sea, 1929



# Siguientes Pasos

## *Próximas Exposiciones*

- App Móvil (Búsqueda por título, artista, museo, ubicación geográfica)
- Agregar más museos y más idiomas al dataset
- Análisis, no solo por texto, sino por imagen (Donde Derechos de Autor lo permitan)
- Experimentar con nuevas herramientas Word2Vec y de manejo de diferentes idiomas



*El Museo cierra a las 5pm  
Please come again tomorrow!*

**Gracias!**

*Monica Ramirez Bernal*  
*[monitarb.github.io](https://monitarb.github.io)*

