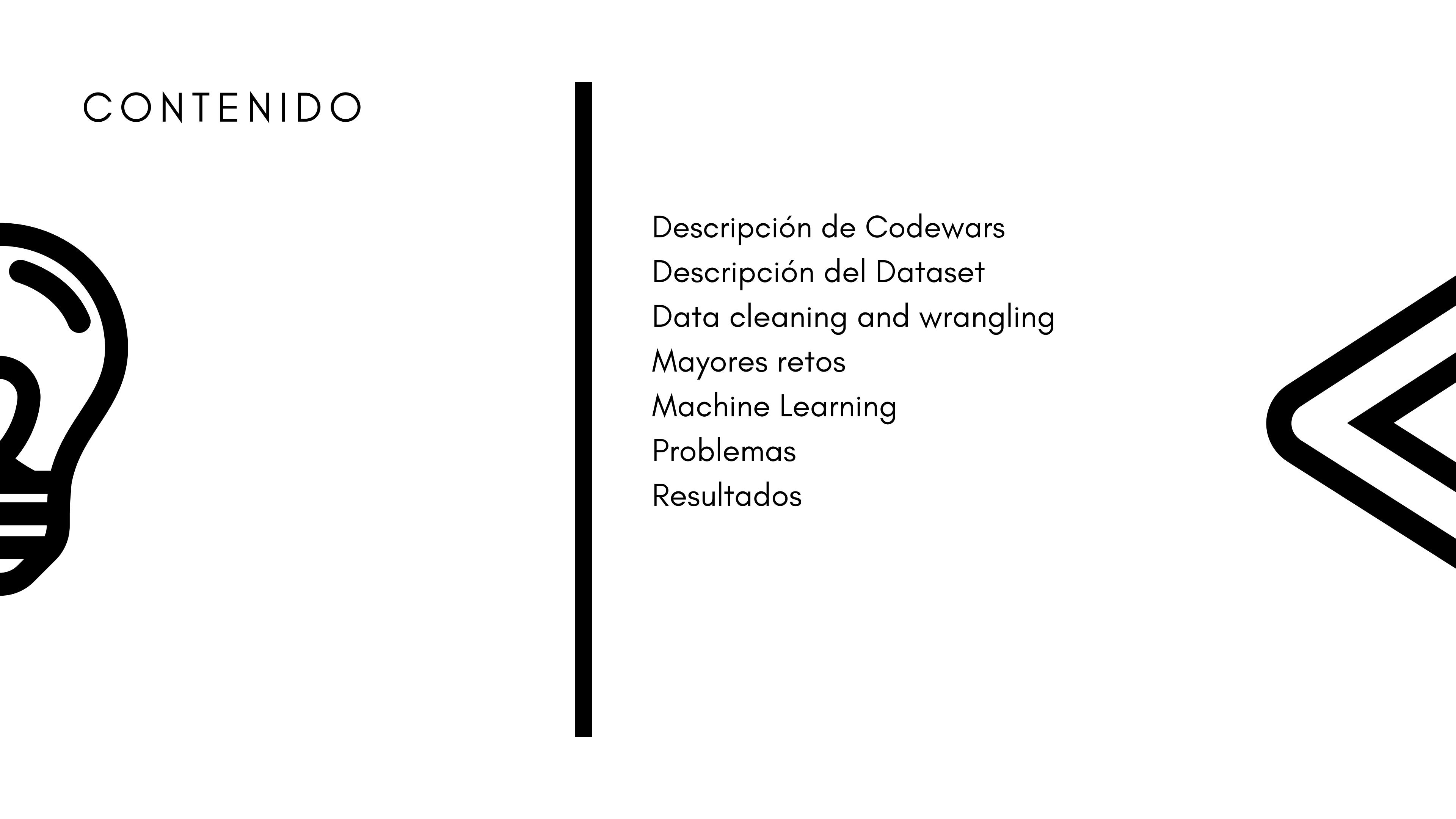


# Sistema de Recomendación: Codewars

**Alberto García Cobo**

# CONTENIDO



Descripción de Codewars  
Descripción del Dataset  
Data cleaning and wrangling  
Mayores retos  
Machine Learning  
Problemas  
Resultados



**Red social para  
programadores**

**Honor y Score**

**+20 lenguajes  
de programación  
TOP**

## | Descripción de Codewars

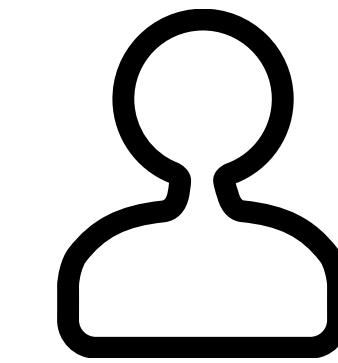


**Usuarios de Codewars**

**Web Scraping  
+ API requests**

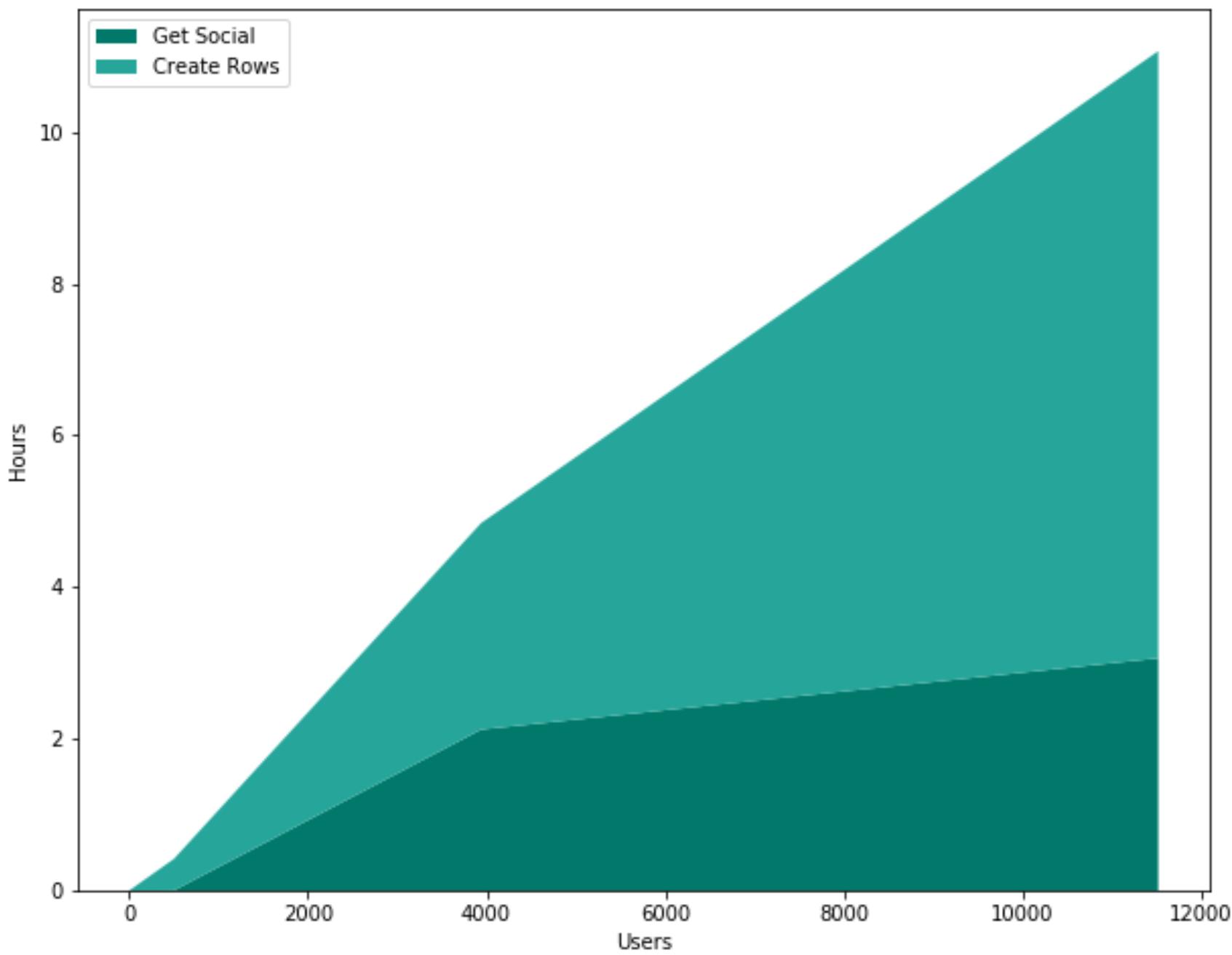
**11500 Registros  
3 Iteraciones**

## | Descripción del Dataset

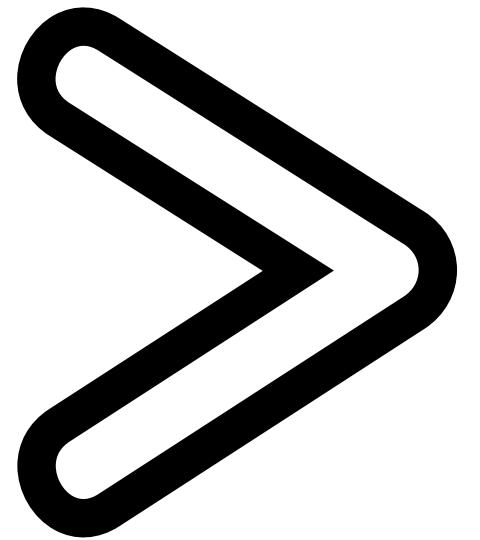
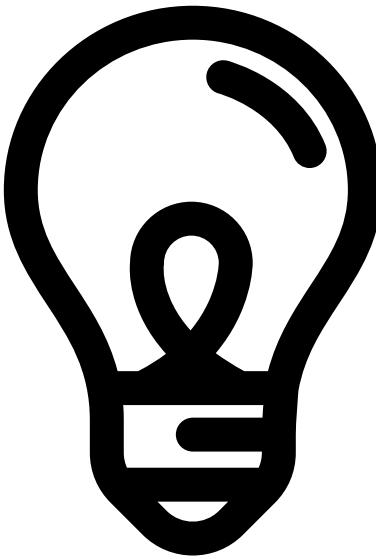


0.0+0.4 horas	500
2.1+2.7 horas	3939
3.0+8.0 horas	11500

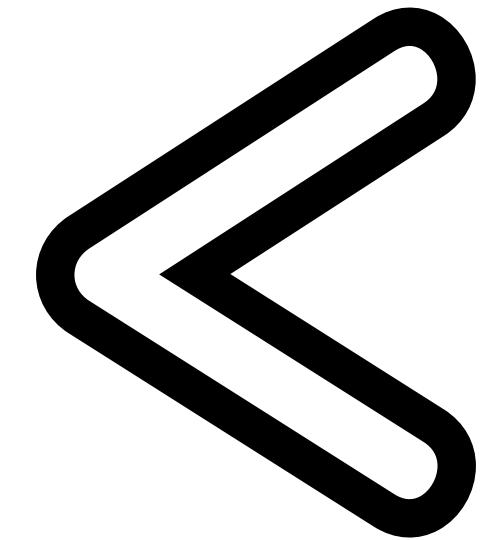
Coste en Tiempo en cada diferente iteración



## Descripción del Dataset



"SEP 2018"  
"3,101"  
"JAVASCRIPT (5 KYU)"  
"3 (1 REPLIES)"



# | Data cleaning and wrangling

```
graph LR; A[Combinar Datos de la API y Web Scraping] --- B[Treemap: javascript + json ad hoc]; B --- C[Sistema de Recomendación Vectorial]
```

**Combinar Datos  
de la API y Web  
Scraping**

**Treemap:  
javascript +  
json ad hoc**

**Sistema de  
Recomendación  
Vectorial**

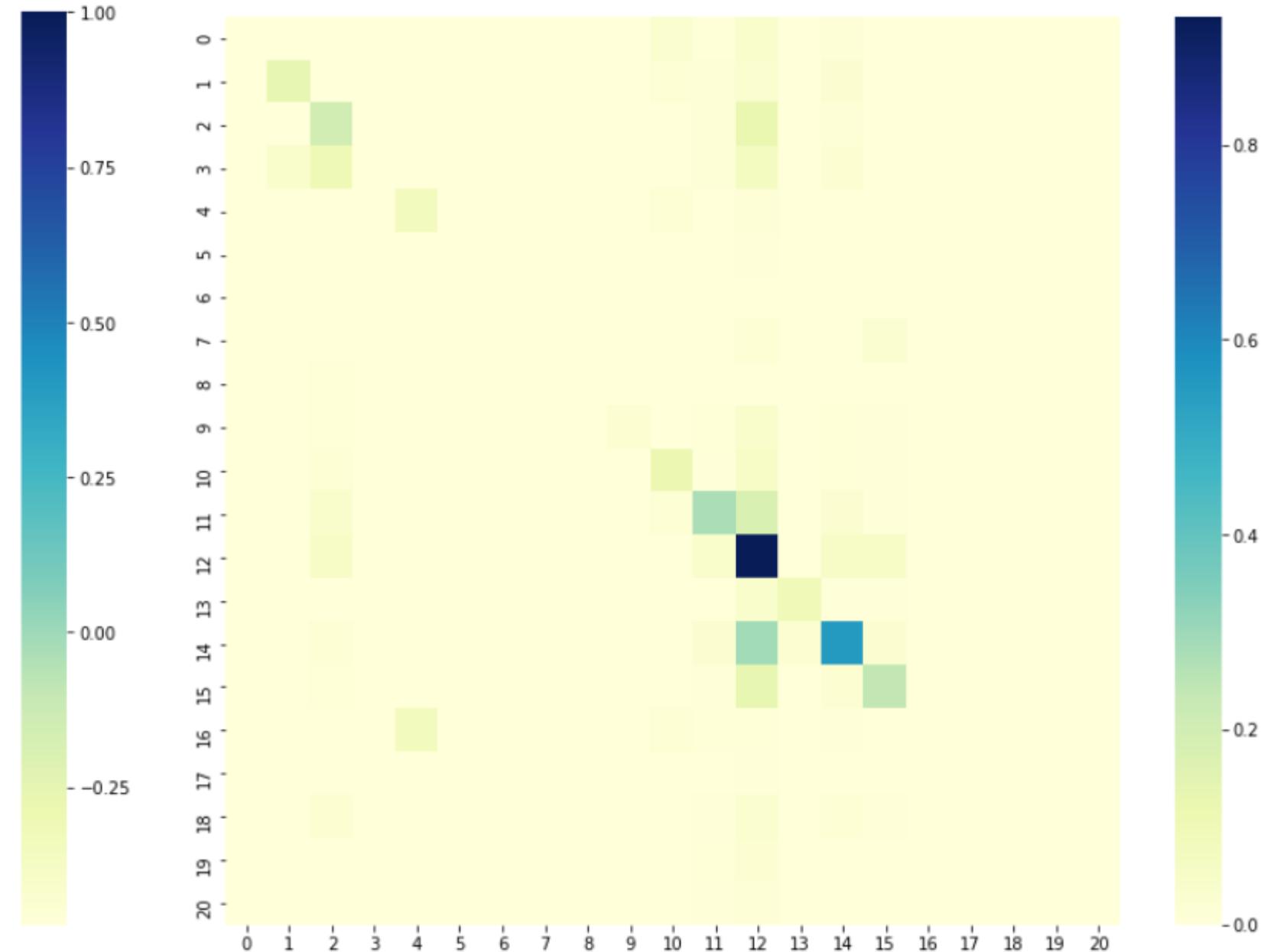
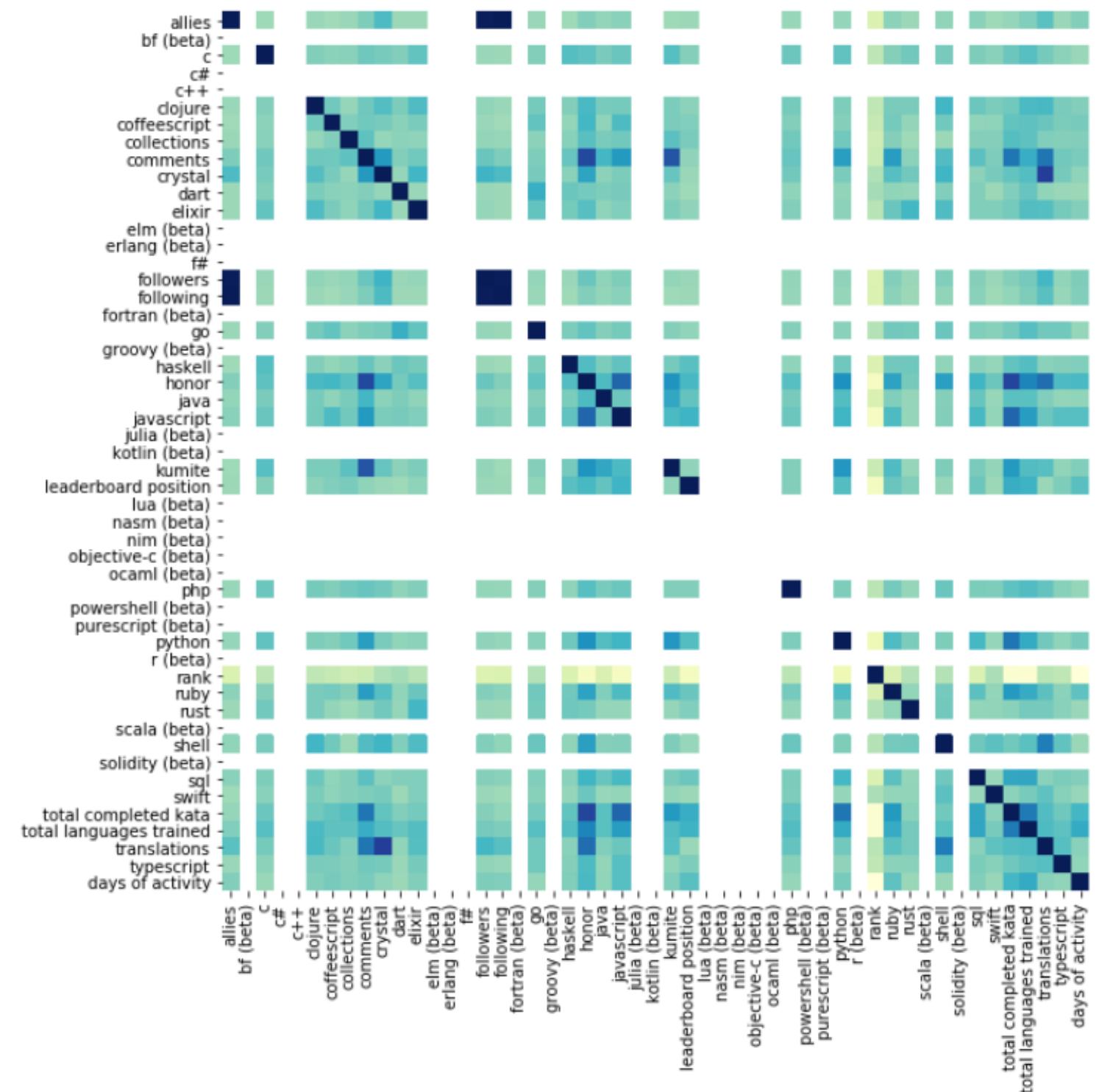
**Mayores retos**

# | Machine Learning

**Correlación  
heatmap**

**Supervised  
Learning:  
score = 0.51**

**Unsupervised  
Learning**



# Correlation y confussion heatmap

```
graph LR; A[Tiempos de ETL] --- B[Web Scraping  
de una Web  
Dinámica]; B --- C[Creación  
de Grafos]
```

**Tiempos de ETL**

**Web Scraping  
de una Web  
Dinámica**

**Creación  
de Grafos**

## Problemas



**Javascript, la  
gran ganadora**

**Sistema de  
recomendación  
por distancia  
euclidea**

**Grafos de  
relaciones**

## | Resultados



| d3 Treemap

# Buscamos expertos en: python, java y javascript



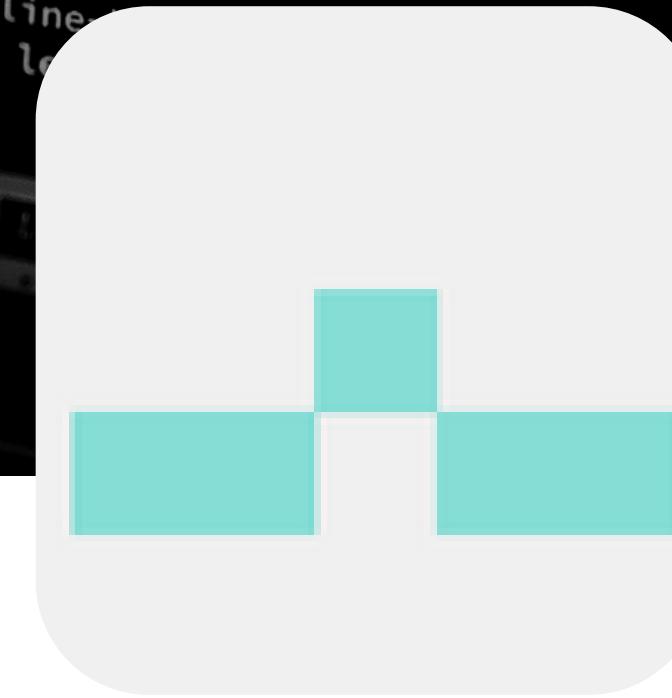
**Blind4Basics**

<https://github.com/Blind4Basics>



**Bubbler**

<https://github.com/Bubbler-4>



**Lyapunov**

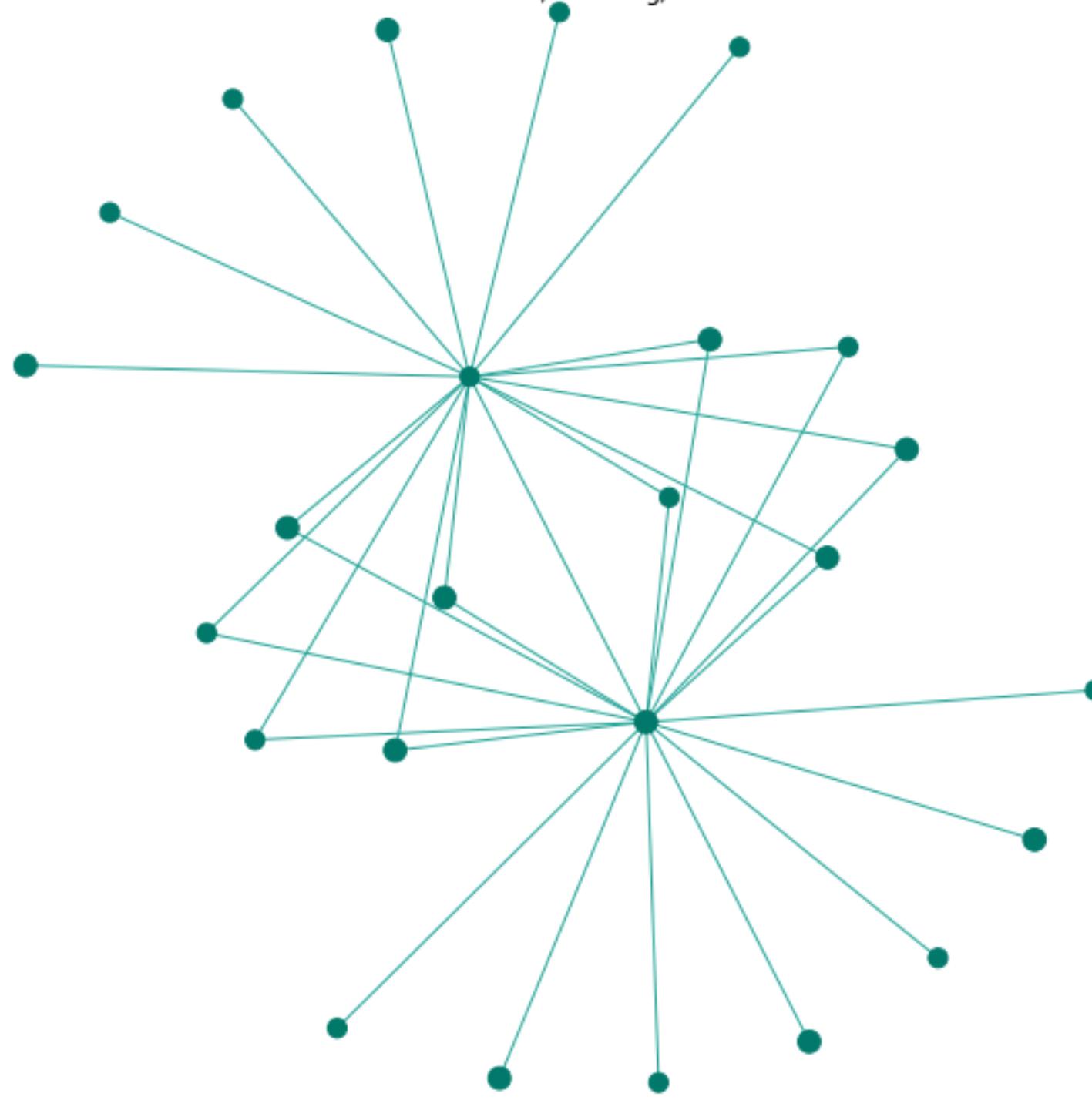
<https://github.com/Lyapunov>

| **Sistema de recomendación**

C	Javascript	Python	Java	R	Ruby
0	1	1	1	0	0
0.1	0.5	0.7	0.9	0	0.1
0.8	0.1	0.1	0.1	0.8	0.9

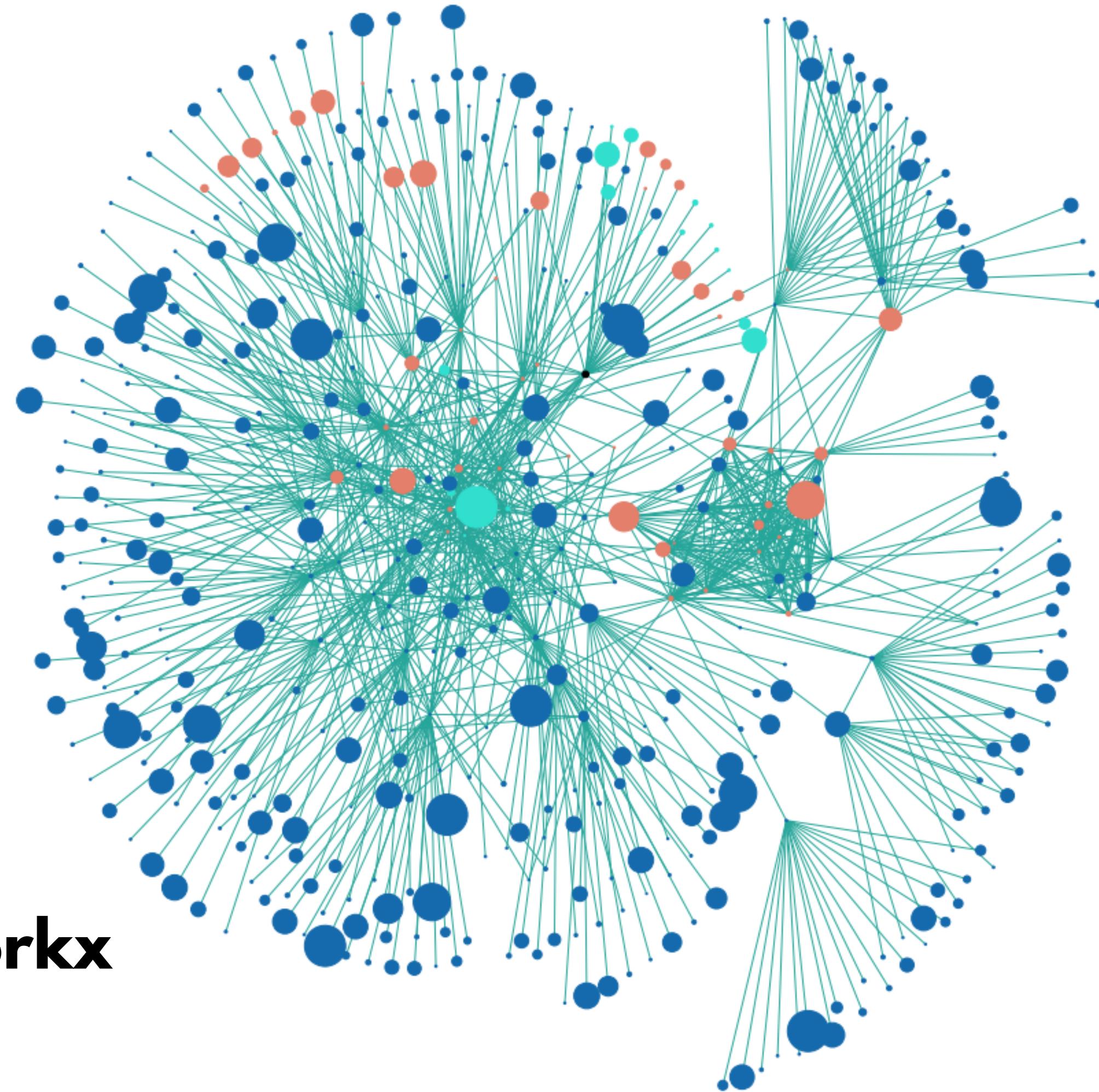
# | Sistema de recomendación

Grafo de aliados/following/followers

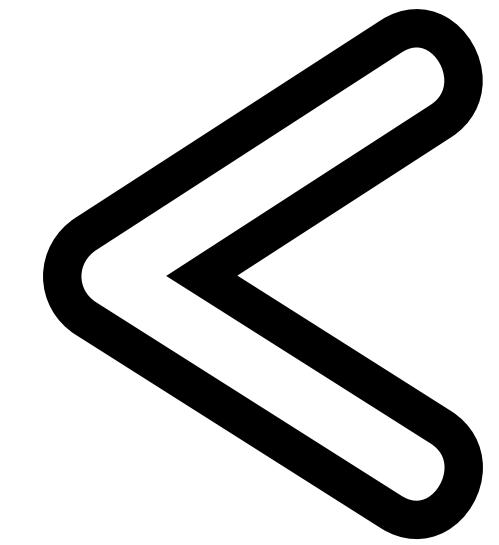
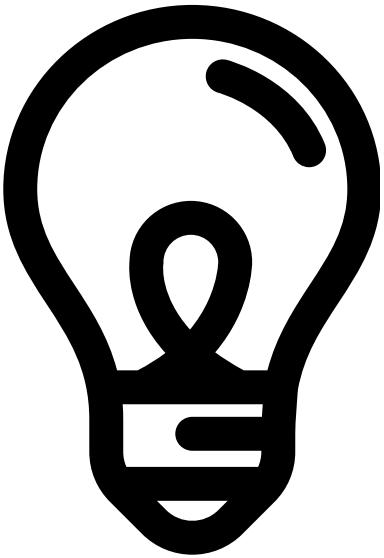
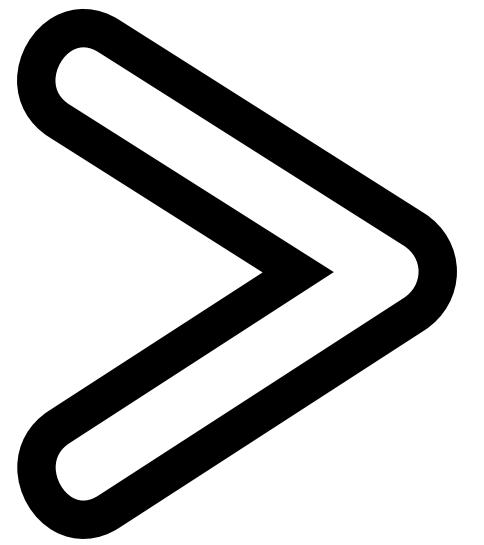


## | Grafos de networkx

Honor de los aliados



# Grafos de networkx



```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import networkx as nx
import requests
import json
import BeautifulSoup
```

| Fin