



Estácio

UNIVERSIDADE ESTÁCIO
CURSO DE DESENVOLVIMENTO FULL STACK

RELATÓRIO MISSÃO PRÁTICA 4 - MUNDO 5

TURMA 23.1
MOISÉS EDUARDO GOMES DA COSTA
CAMPUS: VIA CORPVS - FORTALEZA (CE)

Missão Prática 4 – Mundo 5

Objetivos da prática

- Configurar o ambiente Google Colab;
- Descrever tarefas diversas relacionadas ao Processamento de Linguagem Natural;
- Descrever o processo de identificação de entidades a partir de textos;
- Descrever o processo de extração de frases-chave a partir de textos;
- Descrever o processo de identificação de linguagem predominante a partir de textos

Contextualização

Recentemente a empresa em que você trabalha, como Analista de Data Science, foi contratada por uma grande empresa interessada em abrir, no Brasil, centros de treinamento esportivos vinculados a grandes clubes de futebol da Inglaterra. Nesse contexto, a empresa contratante deseja saber a percepção das pessoas em relação aos clubes citados, i.e., de uma forma geral, qual o sentimento delas, expressos através de textos publicados em redes sociais, sobre os mesmos.

Link do Google Colab:  [sentiment.ipynb](https://colab.research.google.com/notebooks/sentiment.ipynb)

Link do Github: <https://github.com/MoisesE2/Missao4Mundo5>

Código realizado no Google Colab

Comece a programar ou gere código com IA.

"Análise de Sentimentos."

Passo 1: Instalando as bibliotecas e recarregando o ambiente

```
!pip install -U pip setuptools wheel
```

```
!pip install -U spacy
```

```
!python -m spacy download en_core_web_sm
```

```
!pip install spacytextblob
```

```
import pkg_resources, imp
```

```
imp.reload(pkg_resources)
```

```
Requirement already satisfied: pip in /usr/local/lib/python3.11/dist-packages (25.1.1)
Requirement already satisfied: setuptools in /usr/local/lib/python3.11/dist-packages (80.4.0)
Requirement already satisfied: wheel in /usr/local/lib/python3.11/dist-packages (0.45.1)
Requirement already satisfied: spacy in /usr/local/lib/python3.11/dist-packages (3.8.5)
Requirement already satisfied: spacy-legacy<3.1.0,>=3.0.11 in /usr/local/lib/python3.11/dist-packages (from spacy) (3.0.12)
Requirement already satisfied: spacy-loggers<2.0.0,>=1.0.0 in /usr/local/lib/python3.11/dist-packages (from spacy) (1.0.5)
Requirement already satisfied: nummurhash<1.1.0,>=0.28.0 in /usr/local/lib/python3.11/dist-packages (from spacy) (1.0.12)
Requirement already satisfied: cymem<2.1.0,>=2.0.2 in /usr/local/lib/python3.11/dist-packages (from spacy) (2.0.11)
Requirement already satisfied: preshed<3.1.0,>=3.0.2 in /usr/local/lib/python3.11/dist-packages (from spacy) (3.0.9)
Requirement already satisfied: thinc<8.4.0,>=8.3.4 in /usr/local/lib/python3.11/dist-packages (from spacy) (8.3.6)
Requirement already satisfied: wasabi<1.2.0,>=0.9.1 in /usr/local/lib/python3.11/dist-packages (from spacy) (1.1.3)
Requirement already satisfied: srsly<3.0.0,>=2.4.3 in /usr/local/lib/python3.11/dist-packages (from spacy) (2.5.1)
Requirement already satisfied: catalogue<2.1.0,>=2.0.6 in /usr/local/lib/python3.11/dist-packages (from spacy) (2.0.10)
Requirement already satisfied: weasel<0.5.0,>=0.1.0 in /usr/local/lib/python3.11/dist-packages (from spacy) (0.4.1)
Requirement already satisfied: typer<1.0.0,>=0.3.0 in /usr/local/lib/python3.11/dist-packages (from spacy) (0.15.3)
Requirement already satisfied: tqdm<5.0.0,>=4.38.0 in /usr/local/lib/python3.11/dist-packages (from spacy) (4.67.1)
Requirement already satisfied: numpy>=1.19.0 in /usr/local/lib/python3.11/dist-packages (from spacy) (2.0.2)
Requirement already satisfied: requests<3.0.0,>=2.13.0 in /usr/local/lib/python3.11/dist-packages (from spacy) (2.32.3)
Requirement already satisfied: pydantic!=1.8,!=1.8.1,<3.0.0,>=1.7.4 in /usr/local/lib/python3.11/dist-packages (from spacy) (2.11.4)
Requirement already satisfied: Jinja2 in /usr/local/lib/python3.11/dist-packages (from spacy) (3.1.6)
Requirement already satisfied: setuptools in /usr/local/lib/python3.11/dist-packages (from spacy) (80.4.0)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.11/dist-packages (from spacy) (24.2)
Requirement already satisfied: langcodes<4.0.0,>=3.2.0 in /usr/local/lib/python3.11/dist-packages (from spacy) (3.5.0)
Requirement already satisfied: language-data>=1.2 in /usr/local/lib/python3.11/dist-packages (from langcodes<4.0.0,>=3.2.0->spacy) (1.3.0)
Requirement already satisfied: annotated-types>=0.6.0 in /usr/local/lib/python3.11/dist-packages (from pydantic!=1.8,!=1.8.1,<3.0.0,>=1.7.4->spac)
Requirement already satisfied: pydantic-core==2.33.2 in /usr/local/lib/python3.11/dist-packages (from pydantic!=1.8,!=1.8.1,<3.0.0,>=1.7.4->spac)
Requirement already satisfied: typing-extensions>=4.12.2 in /usr/local/lib/python3.11/dist-packages (from pydantic!=1.8,!=1.8.1,<3.0.0,>=1.7.4->spac)
Requirement already satisfied: typing-inspection>=0.4.0 in /usr/local/lib/python3.11/dist-packages (from pydantic!=1.8,!=1.8.1,<3.0.0,>=1.7.4->spac)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.11/dist-packages (from requests<3.0.0,>=2.13.0->spacy) (3.4.1)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.11/dist-packages (from requests<3.0.0,>=2.13.0->spacy) (3.10)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.11/dist-packages (from requests<3.0.0,>=2.13.0->spacy) (2.4.0)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.11/dist-packages (from requests<3.0.0,>=2.13.0->spacy) (2025.4.26)
Requirement already satisfied: blis<1.4.0,>=1.3.0 in /usr/local/lib/python3.11/dist-packages (from thinc<8.4.0,>=8.3.4->spacy) (1.3.0)
Requirement already satisfied: confection<1.0.0,>=0.0.1 in /usr/local/lib/python3.11/dist-packages (from thinc<8.4.0,>=8.3.4->spacy) (0.1.5)
Requirement already satisfied: click>=8.0.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0.0,>=0.3.0->spacy) (8.1.8)
Requirement already satisfied: shellingham>=1.3.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0.0,>=0.3.0->spacy) (1.5.4)
Requirement already satisfied: rich>=10.11.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0.0,>=0.3.0->spacy) (13.9.4)
Requirement already satisfied: cloudpathlib<1.0.0,>=0.7.0 in /usr/local/lib/python3.11/dist-packages (from weasel<0.5.0,>=0.1.0->spacy) (0.21.0)
Requirement already satisfied: smart-open<8.0.0,>=5.2.1 in /usr/local/lib/python3.11/dist-packages (from weasel<0.5.0,>=0.1.0->spacy) (7.1.0)
Requirement already satisfied: wrapt in /usr/local/lib/python3.11/dist-packages (from smart-open<8.0.0,>=5.2.1->weasel<0.5.0,>=0.1.0->spacy) (1.15.0)
Requirement already satisfied: marisa-trie>=1.1.0 in /usr/local/lib/python3.11/dist-packages (from language-data>=1.2->langcodes<4.0.0,>=3.2.0->spac)
Requirement already satisfied: markdown-it-py>=2.2.0 in /usr/local/lib/python3.11/dist-packages (from rich>=10.11.0->typer<1.0.0,>=0.3.0->spac)
Requirement already satisfied: pygments<3.0.0,>=2.13.0 in /usr/local/lib/python3.11/dist-packages (from rich>=10.11.0->typer<1.0.0,>=0.3.0->spac)
Requirement already satisfied: ndurl==0.1 in /usr/local/lib/python3.11/dist-packages (from markdown-it-py>=2.2.0->rich>=10.11.0->typer<1.0.0,>=0.3.0->spac)
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.11/dist-packages (from Jinja2->spacy) (3.0.2)
Collecting en-core-web-sm==3.8.0
Using cached https://github.com/explosion/spacy-models/releases/download/en\_core\_web\_sm-3.8.0/en\_core\_web\_sm-3.8.0-py3-none-any.whl (12.8 MB)
✓ Download and installation successful
You can now load the package via spacy.load('en_core_web_sm')
⚠ Restart to reload dependencies
If you are in a Jupyter or Colab notebook, you may need to restart Python in order to load all the package's dependencies. You can do this by selecting the 'Restart kernel' or 'Restart runtime' option.
Collecting spacytextblob
Downloading spacytextblob-5.0.0-py3-none-any.whl.metadata (4.8 kB)
Requirement already satisfied: spacy>=3.0.0 in /usr/local/lib/python3.11/dist-packages (from spacytextblob) (3.8.5)
Requirement already satisfied: textblob>=0.18.0.post0 in /usr/local/lib/python3.11/dist-packages (from spacytextblob) (0.19.0)
```

Passo 2: Importando as bibliotecas para análise de sentimento

```
import spacy
```

```
from spacytextblob.spacytextblob import SpacyTextBlob
```

Passo 3: Definindo o modelo e a pipeline a serem utilizadas na análise

```
nlp = spacy.load('en_core_web_sm')
```

```
nlp.add_pipe('spacytextblob')
```

```
<spacytextblob.spacytextblob.SpacyTextBlob at 0x7dcd5e45ae90>
```

Passo 4: Definindo o texto inicial a ser analisado para verificação/validação da biblioteca

```
user_input = 'This is a wonderful campsite. I loved the serenity and the birds chirping in the morning.'
```

```
doc = nlp(user_input)
```

Passo 5: Exibindo o resultado da primeira análise (um range entre -1 [avaliação negativa] e 1 [avaliação positiva])

```
input_polarity = doc._.blob.polarity
sentiment = {
    'score': input_polarity
}
print(sentiment)
```

```
{'score': 0.85}
```

Passo 6: Definindo a lista de tweets a serem analisadas

```
tweets=["Bayer Leverkusen goalkeeper Bernd Leno will not be going to Napoli. His agent Uli Ferber to Bild: I can confirm that there were negotiations w
"Gary Speed v Blackburn at St James in 2001/02 anyone? #NUFC #BEL #JAP#WorldCup",
"@ChelseaFC Don't make him regret it and start him over Hoofiz",
"@LiverpoolFF @AnfieldEdition He's a liar, made up. I've unfollowed him as loads of others have. Pure blagger. #LFC",
"@theesk @Everton Didn't realise Kenwright is due to leave at the end of the month. In all seriousness could you see him being interested in us?",
"@hasanshahbaz19 @LFC My knowledge has decreased somewhat in the past few seasons",
"Report: Linked with #Everton and #Wolves, Italians set to sign £4.5m-rated winger",
"Am seeing tweets that there's been a fall out @Everton between the money men... I'm presuming it's just a quiet news day or some kopite with nothing b
"@LFC @officialAL20 @IntChampionsCup @ManUtd Expect loads of excuses after tonight's game",
"@MartinDiamond17 @azryahmad @Baren_D @MathewLewis1997 @Iamheinthu @DiMarzio @AlissonBecker @LFC @SkySportsNews @SkySport @OfficialASRoma I'm just fine
"What a weekend of football results! @ManUtd @Glentoran @RangersFC & Hearts ????",
"@ChelseaFC For the first time in a long while, my heart was relaxed while watching Chelsea. Really enjoyed it today. Come on, CHELSEA!!!",
"@ChelseaFC @CesarAzpi What a fantastic signing worth every single penny ??",
"Pogba scores, Pogba assists. But tomorrow papers won't be telling you this, instead they will tell you how he'll end up at Juve because he's unhappy,
"@WestHamUtd we need to keep @CHI4_ and get @HirvingLozano70 to compliment",
"@kevdev9 @Everton Shouldn't be happening! Needs to stay away with his venomous attitude until he is sold!",
"@brfootball @aguerosergiokun @ManCity What a genius. Pep taking winning mentality with him, conquering league after league. Baller",
"@M20709 Can we get a RT for our #lfc Mo Salah Liverpool Enamel Pin Badge"]
```

Passo 7: Analisando os tweets

```
for item in tweets:
    doc = nlp(item)
    input_polarity = doc._.blob.polarity
    sentiment = {
        'tweet': item,
        'score': input_polarity
    }
    print(sentiment)
```

```
{'tweet': 'Bayer Leverkusen goalkeeper Bernd Leno will not be going to Napoli. His agent Uli Ferber to Bild: I can confirm that there were negotia
{'tweet': 'Gary Speed v Blackburn at St James in 2001/02 anyone? #NUFC #BEL #JAP#WorldCup', 'score': 0.0}
{'tweet': '@ChelseaFC Don't make him regret it and start him over Hoofiz', 'score': 0.0}
{'tweet': '@LiverpoolFF @AnfieldEdition He's a liar, made up. I've unfollowed him as loads of others have. Pure blagger. #LFC', 'score': 0.2142857
{'tweet': '@theesk @Everton Didn't realise Kenwright is due to leave at the end of the month. In all seriousness could you see him being intereste
{'tweet': '@hasanshahbaz19 @LFC My knowledge has decreased somewhat in the past few seasons', 'score': -0.2833333333333334}
{'tweet': 'Report: Linked with #Everton and #Wolves, Italians set to sign £4.5m-rated winger', 'score': 0.0}
{'tweet': 'Am seeing tweets that there's been a fall out @Everton between the money men... I'm presuming it's just a quiet news day or some kopite
{'tweet': '@LFC @officialAL20 @IntChampionsCup @ManUtd Expect loads of excuses after tonight's game', 'score': -0.4}
{'tweet': '@MartinDiamond17 @azryahmad @Baren_D @MathewLewis1997 @Iamheinthu @DiMarzio @AlissonBecker @LFC @SkySportsNews @SkySport @OfficialASRom
{'tweet': 'What a weekend of football results! @ManUtd @Glentoran @RangersFC & Hearts ????', 'score': 0.0}
{'tweet': '@ChelseaFC For the first time in a long while, my heart was relaxed while watching Chelsea. Really enjoyed it today. Come on, CHELSEA!!
{'tweet': '@ChelseaFC @CesarAzpi What a fantastic signing worth every single penny ??', 'score': 0.20952380952380953}
{'tweet': 'Pogba scores, Pogba assists. But tomorrow papers won't be telling you this, instead they will tell you how he'll end up at Juve because
{'tweet': '@WestHamUtd we need to keep @CHI4_ and get @HirvingLozano70 to compliment', 'score': 0.0}
{'tweet': '@kevdev9 @Everton Shouldn't be happening! Needs to stay away with his venomous attitude until he is sold!', 'score': 0.0}
{'tweet': '@brfootball @aguerosergiokun @ManCity What a genius. Pep taking winning mentality with him, conquering league after league. Baller', 's
{'tweet': '@M20709 Can we get a RT for our #lfc Mo Salah Liverpool Enamel Pin Badge', 'score': 0.0}
```