



Missão Prática - Mundo 5 - Nível 4

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RPG0034 - Dando inteligência ao software

T 9001 – 5º Semestre Letivo

Github: <https://github.com/VascoMay/MissaoPraticaMundo5-N4>

Para esta missão foi solicitada a criação de uma ferramenta capaz de analisar as mensagens de rede social utilizando machine learning e processamento de linguagem natural para definir a percepção das pessoas em relação aos clubes de futebol da Inglaterra.

Foi iniciado instalando e atualizando as bibliotecas necessárias:

```
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)

WARNING: Ignoring invalid distribution -hinc (/usr/local/lib/python3.10/dist-packages)
Requirement already satisfied: pip in /usr/local/lib/python3.10/dist-packages (24.3.1)
Requirement already satisfied: setuptools in /usr/local/lib/python3.10/dist-packages (75.3.0)
Requirement already satisfied: wheel in /usr/local/lib/python3.10/dist-packages (0.44.0)
WARNING: Ignoring invalid distribution -hinc (/usr/local/lib/python3.10/dist-packages)
```

Em seguida foi importado a biblioteca Spacy responsável por análise de sentimentos e a extensão SpacyTextBlob, ferramenta para processar textos em linguagem natural.

```
Passo 2: Importando as bibliotecas para análise de sentimento

import spacy

from spacytextblob.spacytextblob import SpacyTextBlob
```

Carregando o modelo pré-treinado do Spacy e definindo o modelo para atuar no idioma Inglês(en):

```
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 0x7ba111536e30>
```

Após definimos a frase que será analisada: *'This is a wonderful campsite. I loved the serenity and the birds chirping in the morning.'*

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

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

doc = nlp(user_input)
```

Neste comando o código solicita a análise do sentimento e segue com o resultado: **'score': 0.85**

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

```
input_polarity = doc._.polarity

sentiment = {

    'score': input_polarity

}

print(sentiment)

{'score': 0.85}
```

Nos passos seguintes são definidas todas as frases que precisam ser analisadas e o resultado na análise individual:

Passo 6: Definindo a lista de tweets a serem analisadas

```
[12] tweets=["Bayer Leverkusen goalkeeper Bernd Leno will not be going to Napoli. His agent Ulli Ferber to Bild: I can confirm that there were negotiations with Napoli, which we have broken off. Napoli is not an option. Atletico Madrid an

"Gary Speed v Blackburn at St James in 2001/02 anyone? #MUFC #BEL #JAP #WorldCup",
"@chelseaFC Don't make him regret it and start him over Hoofit",
"@LiverpoolFC @onfieldedition He's a liar, made up. I've unfollowed him as loads of others have. Pure blagger. #LFC",
"@thesek @verton Didn't realise Kewright is due to leave at the end of the month. In all seriousness could you see him being interested in us?",
"@hasanahbhai19 @LFC My knowledge has decreased somewhat in the past few seasons",
"Report: Linked with @everton and @molves, 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 new day or some kopite with nothing better to do! @ALANMYERSMEDIA",
"@LFC @officialAL20 @intChampionsCup @manUtd Expect loads of excuses after tonight's game",
"@MartinDiamond17 @azryahmad @Baren_D @mthwlewis1997 @lambethu @DiMarzio @allisonbecker @LFC @skySportsNews @skySport @OfficialASRoma I'm just fine I have your fanbase angry over stating facts should ask them hun. Xo",
```

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

{'tweet': 'Bayer Leverkusen goalkeeper Bernd Leno will not be going to Napoli. His agent Ulli Ferber to Bild: I can confirm that there were negotiations with Napoli, which we have broken off. Napoli is not an option. All', 'score': 0.0}
{'tweet': 'Gary Speed v Blackburn at St James in 2001/02 anyone? #MUFC #BEL #JAP #WorldCup', 'score': 0.0}
{'tweet': '@chelseaFC Don't make him regret it and start him over Hoofit', 'score': 0.0}
{'tweet': '@LiverpoolFC @onfieldedition He's a liar, made up. I've unfollowed him as loads of others have. Pure blagger. #LFC', 'score': 0.21428571428571427}
{'tweet': '@thesek @verton Didn't realise Kewright is due to leave at the end of the month. In all seriousness could you see him being interested in us?', 'score': 0.0625}
{'tweet': '@hasanahbhai19 @LFC My knowledge has decreased somewhat in the past few seasons', 'score': -0.28333333333333334}
{'tweet': 'Report: Linked with @everton and @molves, 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 new day or some kopite with nothing better to do! @ALANMYERSMEDIA', 'score': 0.3125}
{'tweet': '@LFC @officialAL20 @intChampionsCup @manUtd Expect loads of excuses after tonight's game', 'score': -0.4}
{'tweet': '@MartinDiamond17 @azryahmad @Baren_D @mthwlewis1997 @lambethu @DiMarzio @allisonbecker @LFC @skySportsNews @skySport @OfficialASRoma I'm just fine I have your fanbase angry over stating facts should ask t', 'score': 0.0}
{'tweet': 'What a weekend of football results! @mtd @lentrans @angersFC Bump, 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!!!', 'score': 0.30218749999999997}
{'tweet': '@chelseaFC @cesarapzl 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 he's unhappy, frustrated, have grudges with Mourinho and so on and so fo', 'score': 0.0}
{'tweet': '@mtd @manUtd we need to keep @CH14 and get @virvinglozano70 to compliant', 'score': 0.0}
{'tweet': '@kevdev @everton Shouldn't be happening! Needs to stay away with his venomous attitude until he is sold', 'score': 0.0}
{'tweet': '@irifootball @aguroeroerglokun @mancity What a genius. Pep taking winning mentality with him, conquering league after league. Baller', 'score': 0.5}
{'tweet': '@W420709 Can we get a kit for our #LFC No Salah Liverpool Enemy Pin Badge', 'score': 0.0}
```