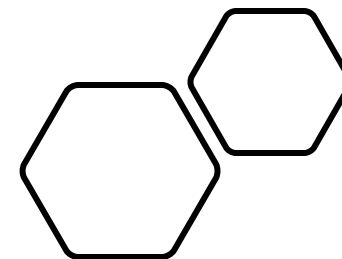


POR QUE  
TEM  
SENTIMENTOS?



*Danièle Nazaré*



**julia**

# Objetivo



*Entender as principais características da linguagem Julia e explorar recursos da linguagem para Análise de Sentimentos.*



Gratuito e  
Open – Source  
sob a Licença  
MIT

Projetado para  
paralelismo e  
computação  
distribuída

Possui  
performance de  
linguagem com  
tipagem estática  
(C)

Computação  
Numérica e  
Científica

Suporte  
Unicode e  
UTF-8



IDE Interativa

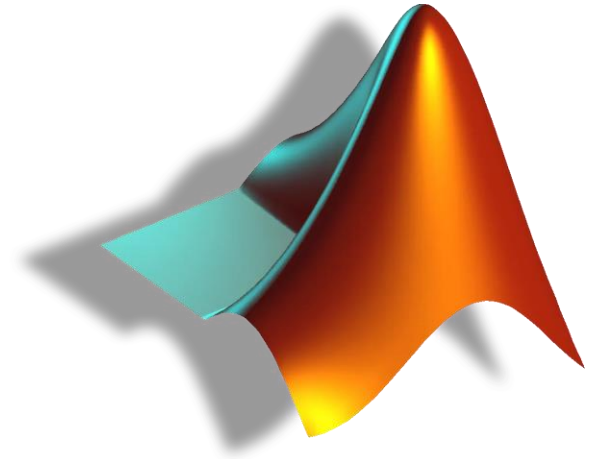
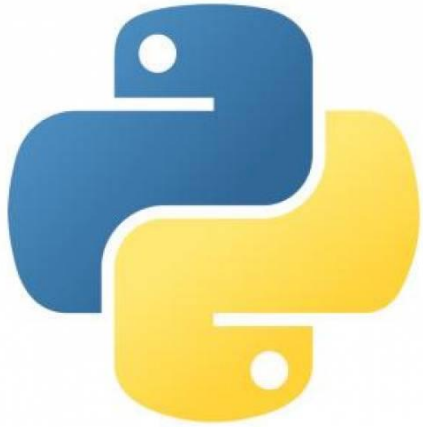
Gerenciador de  
Pacotes

Chamada  
direto de  
código C e  
Python

Compilador  
Just-in-Time  
baseado em  
LLVM

Simples e  
Fácil de usar

# Concorrentes

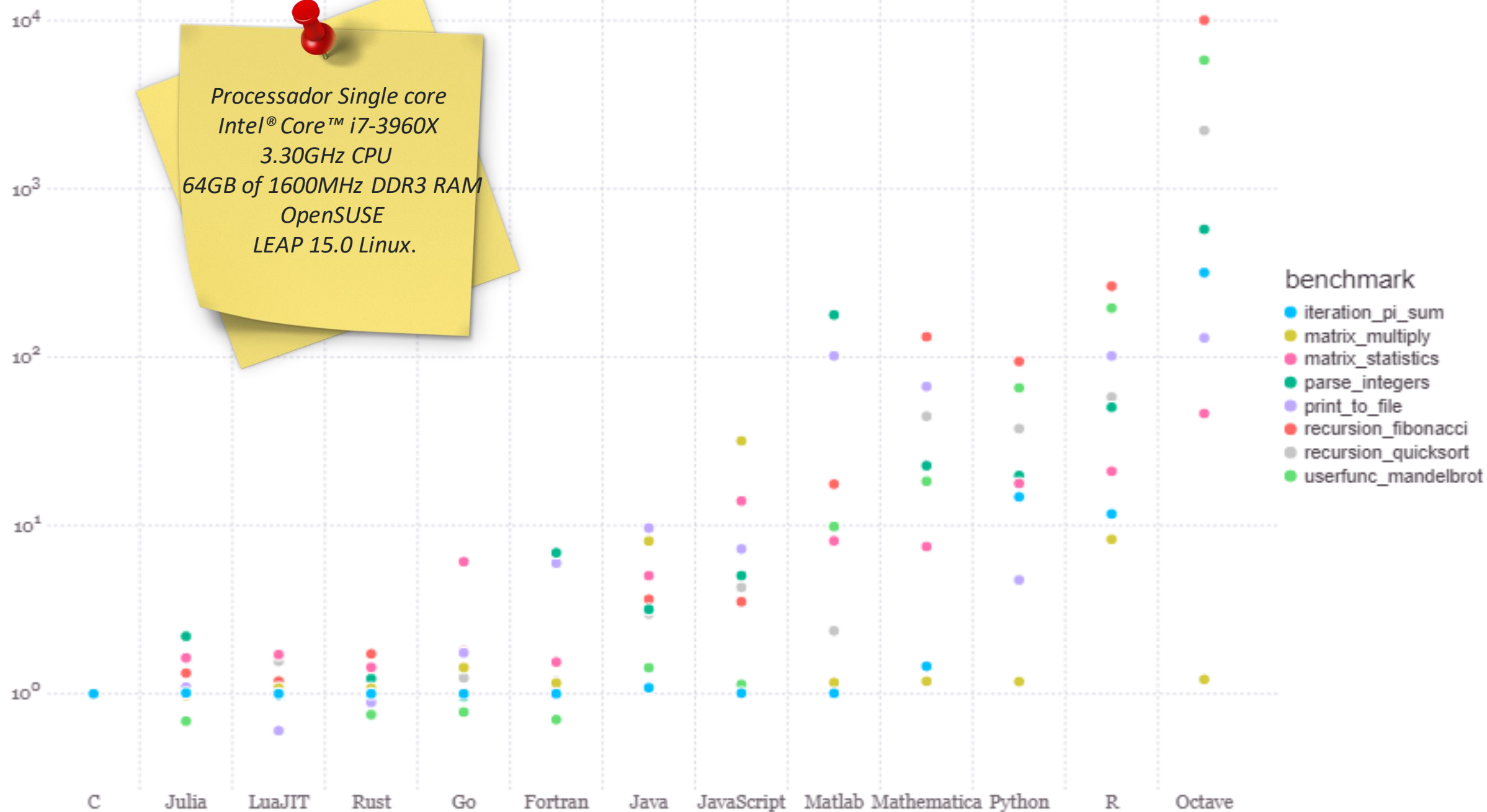


Fortran





Processador Single core  
Intel® Core™ i7-3960X  
3.30GHz CPU  
64GB of 1600MHz DDR3 RAM  
OpenSUSE  
LEAP 15.0 Linux.



Juno



Atom Plugin

VS Code



VS Code Extension

Jupyter



Jupyter kernel

JetBrains



IntelliJ IDEA Plugin

Vim



Vim plugin

Emacs



Emacs plugin

SublimeText



Sublime Text

NotePad++



Notepad++

# Ambiente para o Desenvolvimento



# O que é "Análise de Sentimentos"?

---

- Análise de Sentimento é a detecção de Atitudes(Stanford)
  1. Origem
  2. Objetivo
  3. Tipo
  4. Textos verbais ou não verbais



# O que é "Análise de Sentimentos"?

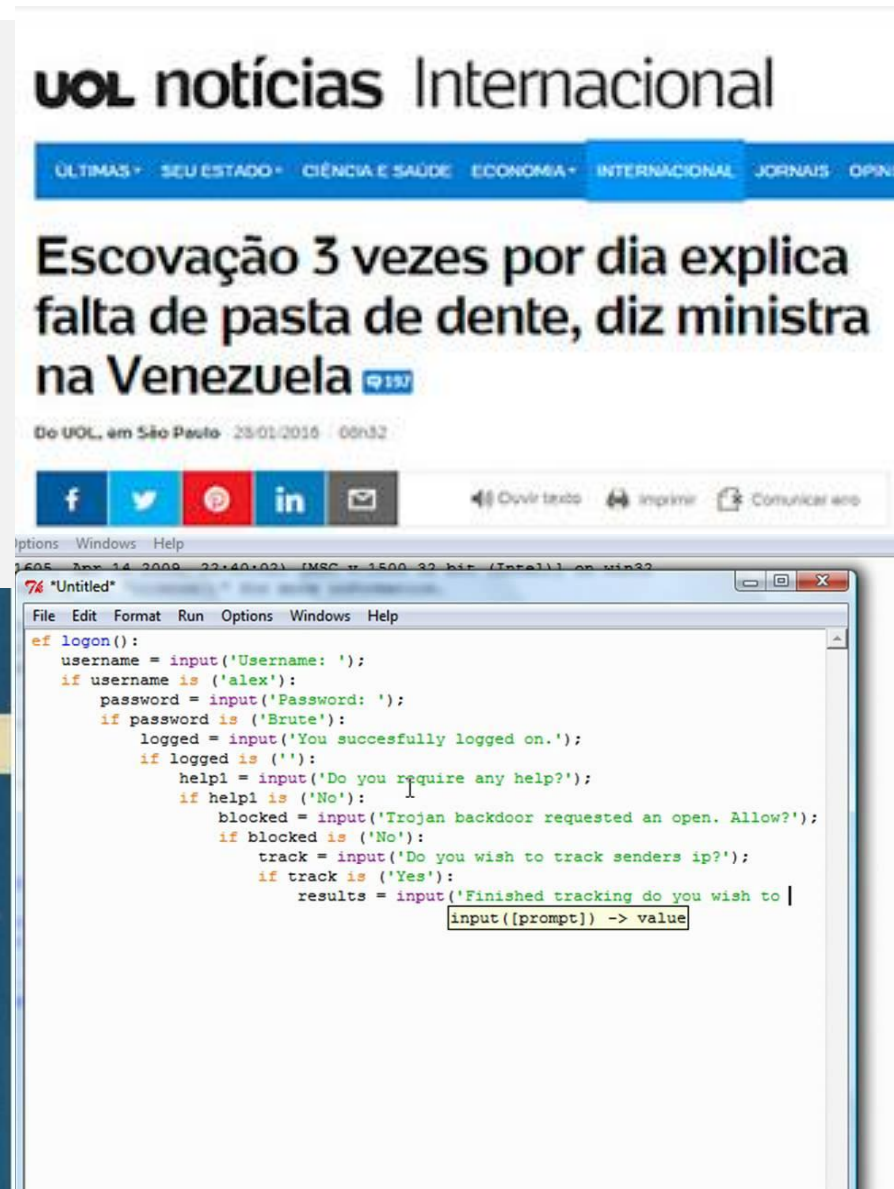
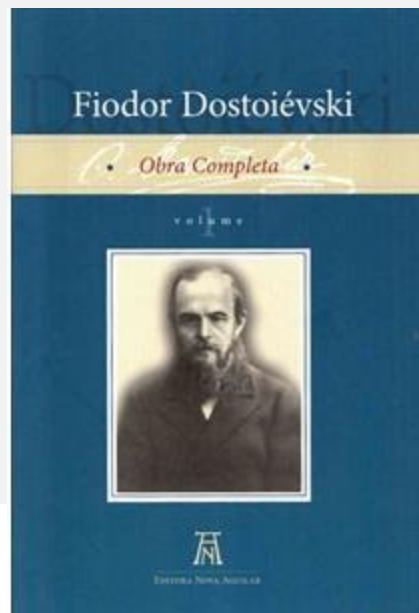
- Análise de Sentimento é o processo de determinar se uma linguagem é verbal/**não verbal** é
  1. Positivo
  2. Negativo
  3. Neutro



# O que é "Análise de Sentimentos"?

- Análise de Sentimento é o processo de determinar se e uma linguagem é **verbal**/não verbal é

1. Positivo
2. Negativo
3. Neutro



# "Análise de Sentimentos"

- Sinônimos(Stanford)
  1. Option extraction
  2. Option mining
  3. Sentiment mining
  4. Subjectivity analysis



Por que **juliã** Tem "**Sentimentos**"?





# Exemplos



Smartphone Samsung Galaxy A30s 64GB Dual Chip Andr...



**R\$ 1.399,00** **ā** prime  
12x de R\$ 116,58 sem juros



Smart TV LED 50" Samsung 50RU7100 Ultra HD 4K com...



**R\$ 2.298,99** **ā** prime  
12x de R\$ 191,58 sem juros



Notebook Compaq Presario CQ32 Intel Pentium 4GB...



**R\$ 1.599,99** **ā** prime  
12x de R\$ 133,33 sem juros



Lavadora de Roupas Brastemp 12Kg BWK12...



**R\$ 1.629,99** **ā** prime  
12x de R\$ 135,83 sem juros



↓ 79%

Oxímetro De Dedo SpO2  
Oxímetro De Pulso Na Pont...

**R\$ 129,63**  
12x de R\$ 10,80 sem juros



# Exemplos



Curtir



Amei



Haha



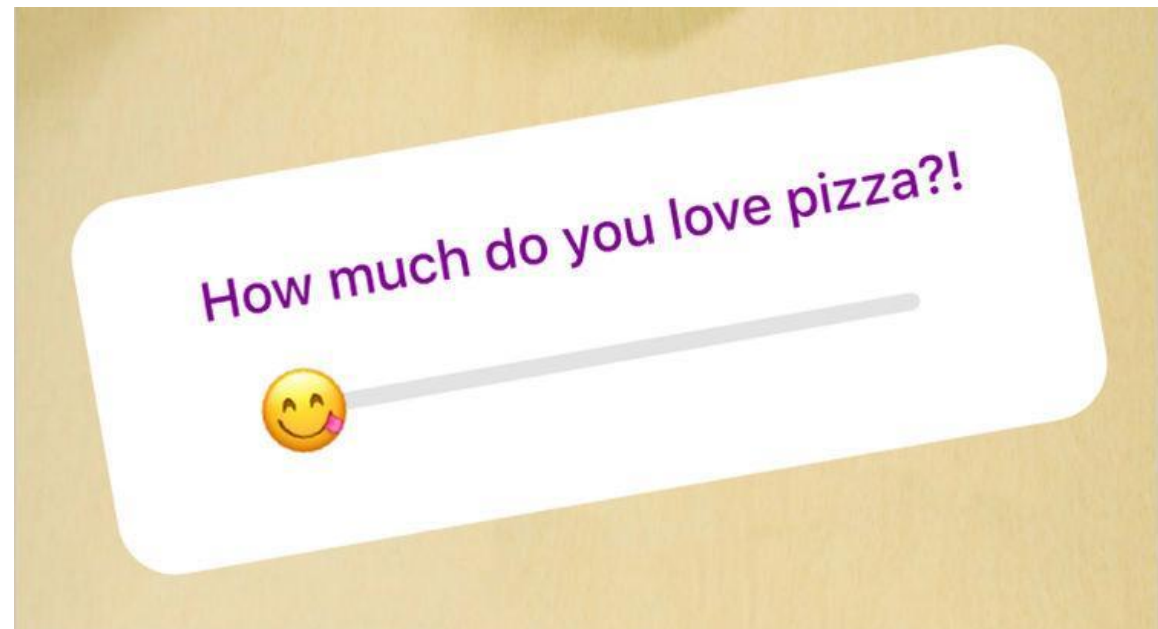
Uau



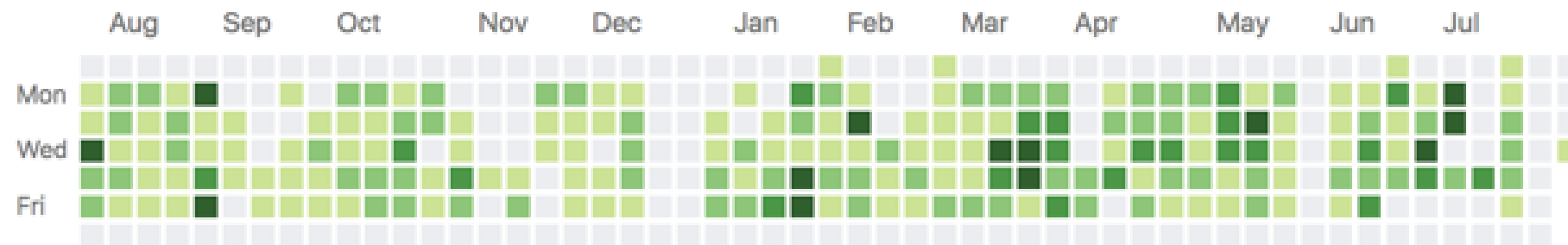
Triste



Grr







[Learn how we count contributions.](#)

Less More



@github



@octo-org



@octobox

More

Activity overview

25%  
Code review

2017

2016

2015

2014

# Exemplos



## Public profile settings

You control your profile and can limit what is shown on search engines and other off-LinkedIn services. Viewers who aren't signed in to LinkedIn will see all or some portions of the profile view displayed below.



### Timothy Bellows

Social Media Specialist at BrightFire LLC  
Greater Atlanta Area | Writing and Editing

89  
connections

Current BrightFire LLC, Independent  
Education University of North Georgia

#### Summary

Experienced writer and editor with a demonstrated history of working in the education management industry. Skilled in researching, writing, and editing copy and other content across a wide array of subjects. Strong media and communication professional with a Bachelor's degree focused in English/Writing & Publication from University of North Georgia.

#### Experience

##### Social Media Specialist

BrightFire LLC

October 2018 – Present (2 months) | Suwanee, GA



##### Freelance Copywriter

Independent

January 2016 – Present (5 years 11 months)

Coordinate with a clients across a variety of industries to research, write, and edit copy for company websites, blogs, and sales pages.

#### Education

##### University of North Georgia

Bachelor's degree, English/Writing & Publication  
2012 – 2015



#### Edit URL

Personalize the URL for your profile.

[www.linkedin.com/in/timothy-bellows-45a506162](https://www.linkedin.com/in/timothy-bellows-45a506162)

#### Edit Content

This is your public profile. To edit its sections, update your profile.

[Edit contents](#)

#### Edit Visibility

You control your profile's appearance for viewers who are not logged-in members. Limits you set here affect how your profile appears on search engines, profile badges, and permitted services like Outlook.

[Learn more](#)

#### Your profile's public visibility

On ☒

##### Basic (required)

☒ Name, number of connections, industry, and region

##### Profile Photo

☐ Your connections  
Only LinkedIn members directly connected to you.

☐ Your network  
Only LinkedIn members connected up to three degrees away from you.

☐ All LinkedIn Members

☒ Public  
All LinkedIn members, and others who find you via search engines and other services

Headline ☒ Show

Posts & Activities ☐ Hide

Summary ☒ Show

Current Experience ☒ Show

Details ☒ Show

Past Experience ☐ Hide

Education ☒ Show

# Exemplos



# Exemplos

# Ambiguidade



- Ana é Bonita

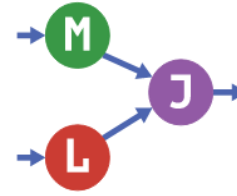


- Ana não é Bonita

- Ana Fez Bonito

- Ana Caprichou Bonito





TextAnalysis.jl

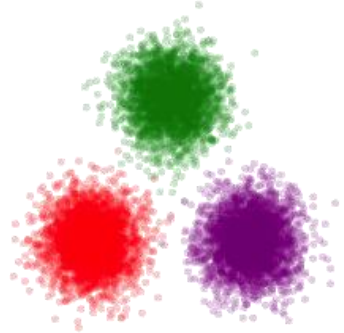


Merlin.jl

## "Análise de Sentimentos"

Análise de Sentimento é um tópico vital no campo da NPL.(DataCamp)

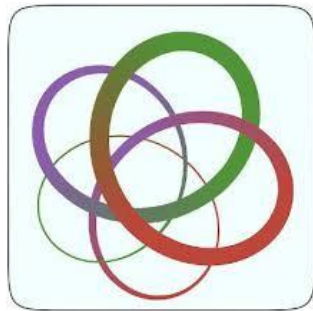
E está intimamente relacionada com Machine Learning



Clustering.jl

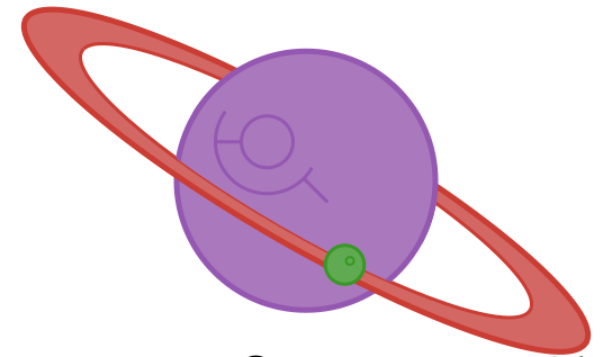


WordTokenizers.jl



DataDeeps.jl

Knet.jl



Transformers.jl

# Create new value from your data

Train custom machine learning models to get topic, sentiment, intent, keywords and more.

Do it in hours —not weeks— right inside the tools you already love.


[SIGN UP FREE →](#)
[Schedule a Demo](#)

Powering the world's most innovative companies



## For Support Teams

Automate ticket tagging and routing to help your support team move from putting out fires to elevating the conversation.

SUPPORT TICKET TAGGING ROUTING

[LEARN MORE →](#)


## For Product & CX Teams

Infuse your product roadmap with insights from customer conversations, product reviews, surveys, and NPS.

CUSTOMER FEEDBACK REVIEWS NPS

[LEARN MORE →](#)


## For Developers

Train custom text analysis models and integrate them into your stack with our powerful API, simple SDKs and docs.

DEVELOPERS API SDKS

[LEARN MORE →](#)

# MonkeyLearn

## Software as a Service(SaaS)



# Operações e Algoritmos + Usados

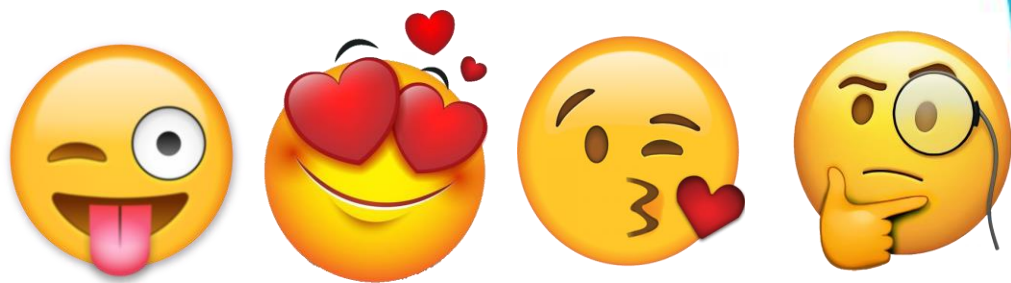
## Análise Baseado em regras(NPL)

- Stemming
- Tokenization
- Part of speech tagging
- Parsing
- Lexicon analysis (depending on the relevant context)

## Análise Automática(ML Supervisionado e ML não supervisionado)

- Linear Regression
- Naive Bayes
- Support Vector Machines
- RNN derivatives LSTM and GRU.

Thank  
You





# Referências

- Stanford. Sentiment Analysis  
.[Online]< <https://web.stanford.edu/class/cs124/lec/sentiment.pdf>>.  
[Acessado em 3 jun. 2020].
- JuliaLang.[Online]< <https://julialang.org>>. [Acessado em 3 jun. 2020].
- JuliaDocs.[Online]< <https://docs.julialang.org/en/v1/> >. [Acessado em 3 jun. 2020].
- MonkeyLearn.[Online]< <https://monkeylearn.com> >. [Acessado em 3 jun. 2020].
- DataCamp.[Online]< <https://www.datacamp.com/community/tutorials/text-analytics-beginners-nltk>>. [Acessado em 3 jun. 2020].
- Geeks-World.[Online]< <https://geeks-world.github.io/articles/475922/index.html> >. [Acessado em 3 jun. 2020].

# Referências

- TheAppSolution. **WHAT IS SENTIMENT ANALYSIS: DEFINITION, KEY TYPES AND ALGORITHMS** .[Online]< <https://theappsolutions.com/blog/development/sentiment-analysis/>>. [Acessado em 3 jun. 2020].