Introdução a Redes Neurais

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Aula 2 – Parte 2

Notebooks Python

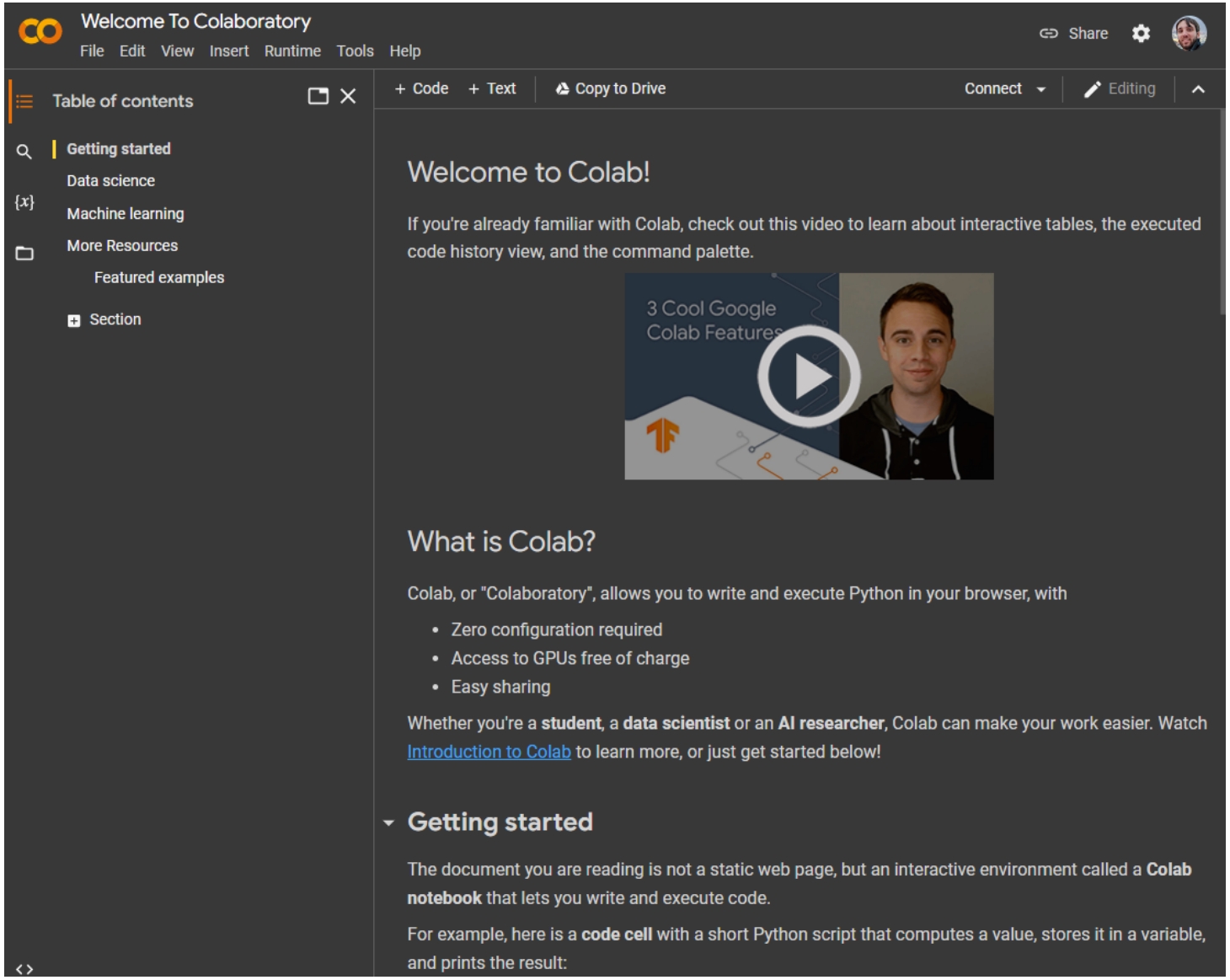
- Google Colab
- Jupyter

Bibliotecas de ML

- Tensorflow
- Pytorch
- Keras

Google Colaboratory

https://colab.research.google.com/

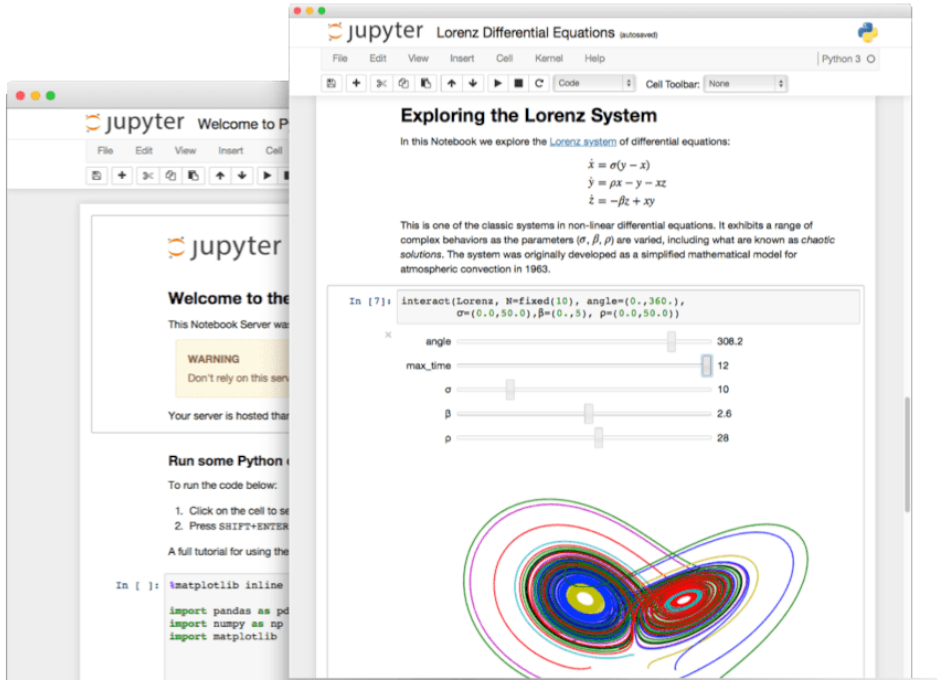


Jupyter

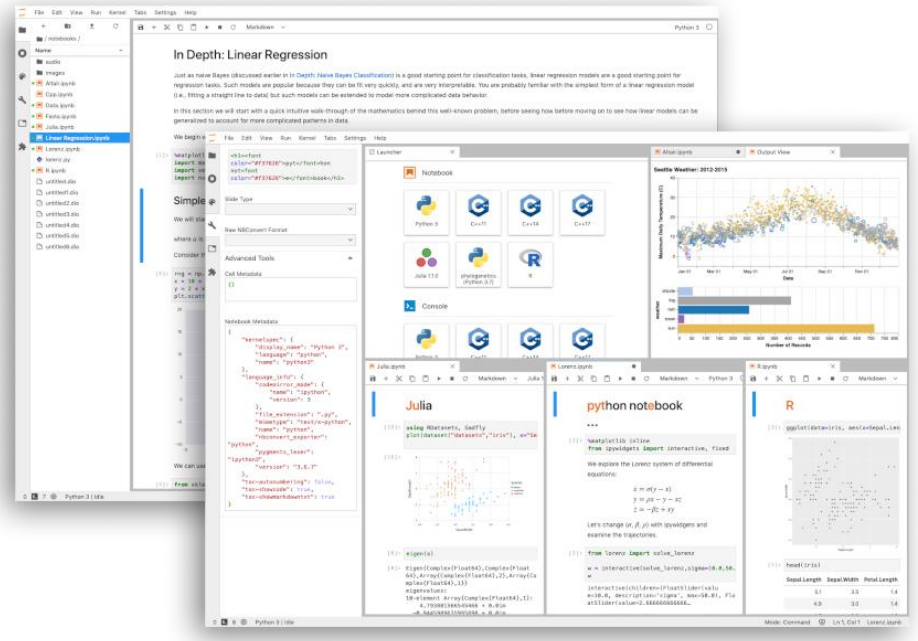
- https://jupyter.org/
- Open-source
- Pode ser executado localmente
- Não apenas para Python

Jupyter

Notebook

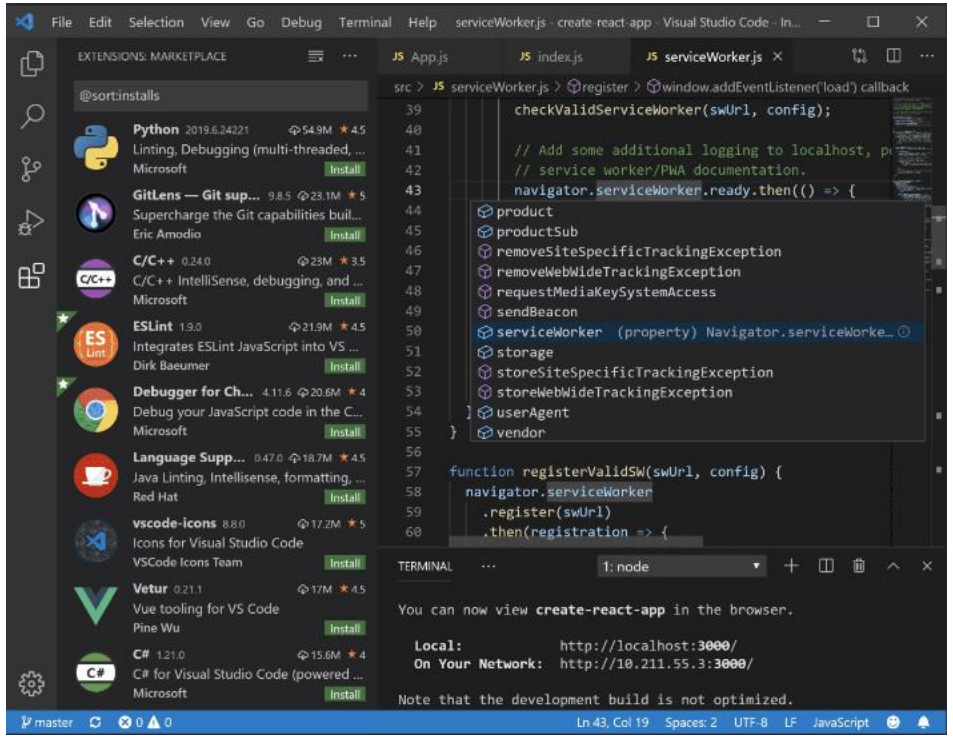


Jupyterlab



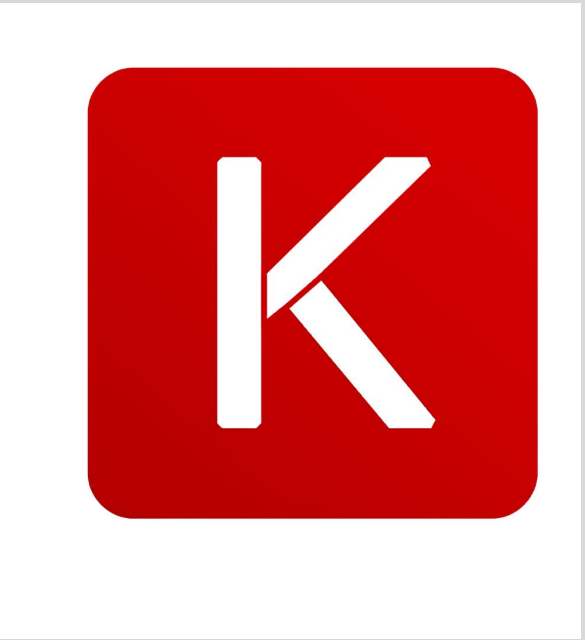
VSCode

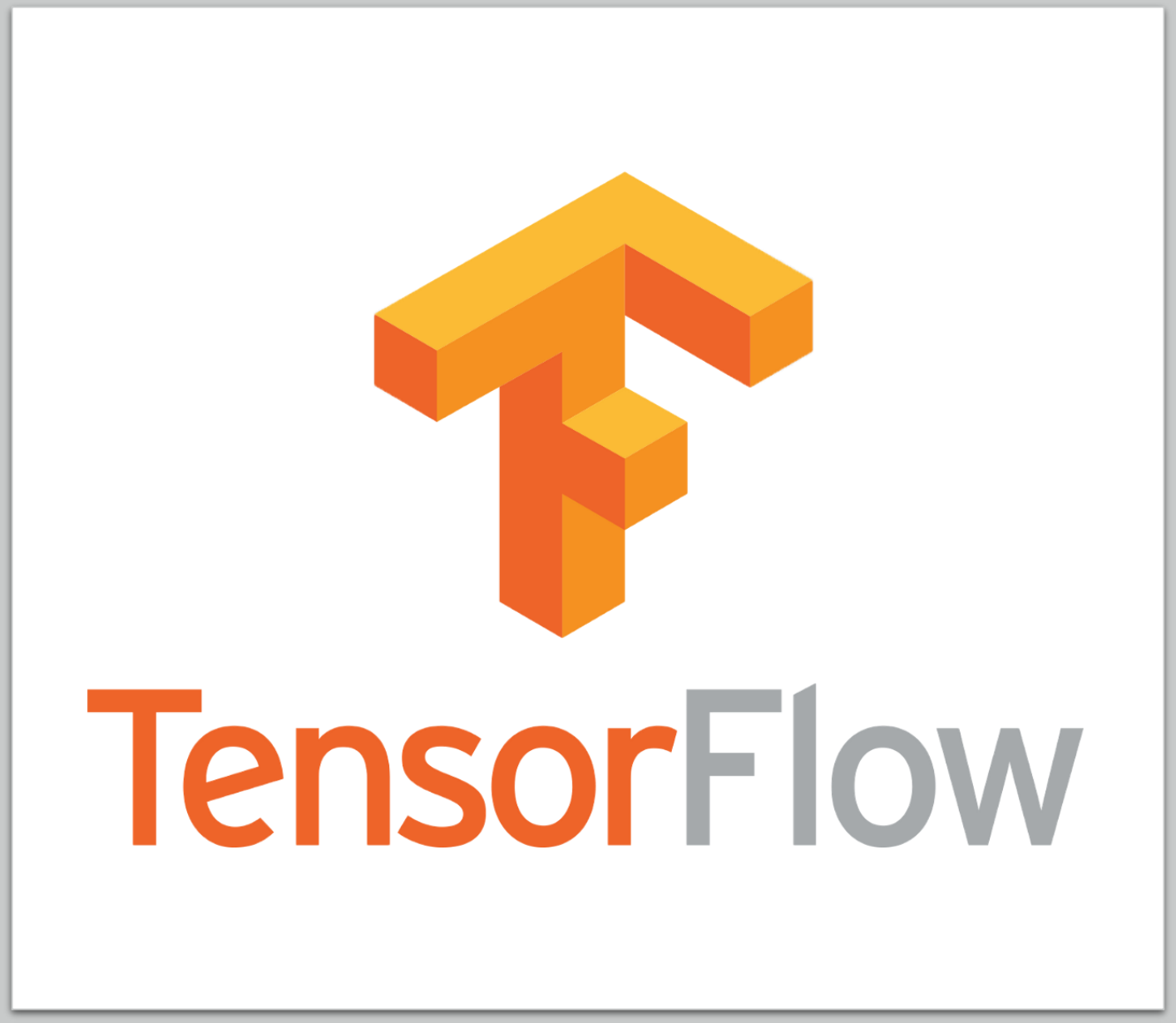
- Ambiente de desenvolvimento integrado
- Integra com Jupyter
- Integra com git
- Acesso remoto



Bibliotecas de ML

- O que é uma biblioteca?
- Por que usar?
- As principais bibliotecas de ML
  - TensorFlow
  - PyTorch
  - Keras
  - scikit-learn

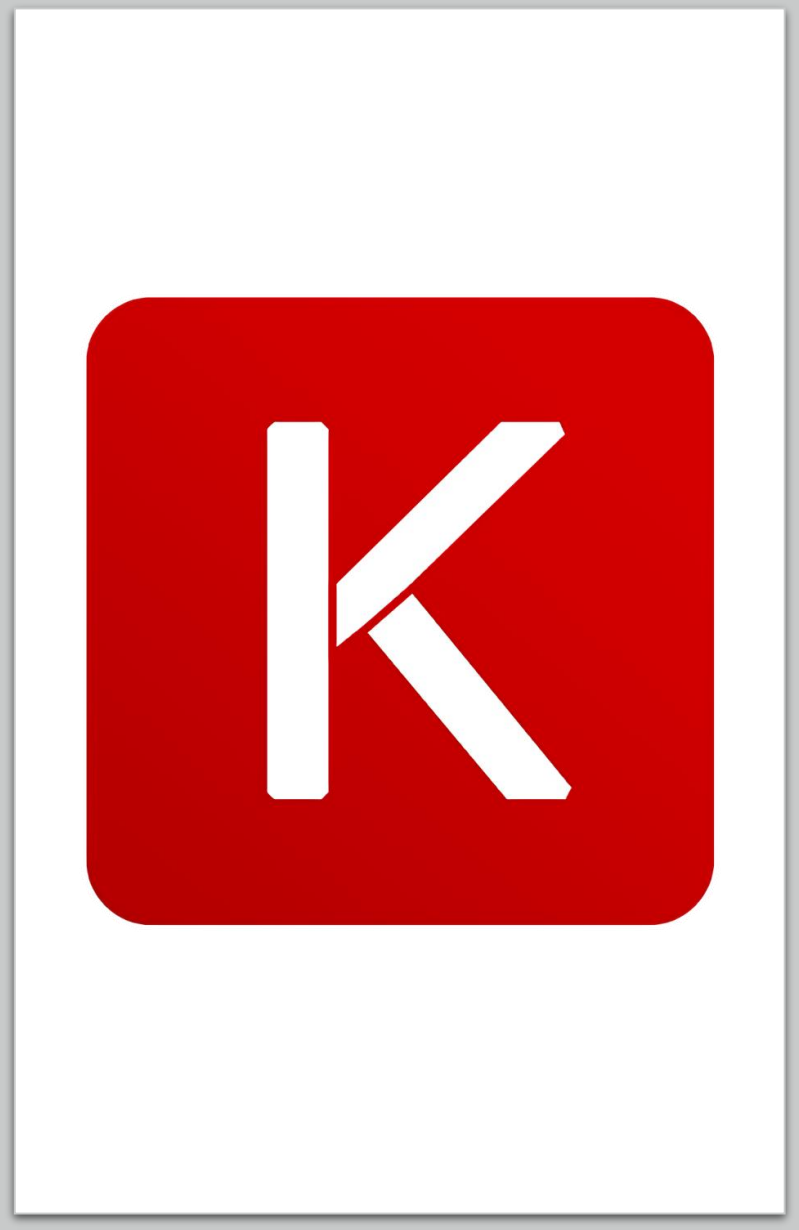




TensorFlow

- Open Source
- Mantido pelo Google Brain
- TF 1.0 e TF 2.0
- Diferenciação automática
- GPU

```
import tensorflow as tf
```



Keras

- Open Source
- Interface para o TensorFlow
- Focado em facilidade de implementação
- GPU
- https://keras.io/examples/

```
from tensorflow import keras
ou
import keras
```

PyTorch

- Open Source
- Mantido pela Meta AI
- Baseado na biblioteca Torch
- Diferenciação automática
- GPU

```
import torch
```

Scikit learn

- Open Source
- Fácil integração com numpy e scipy

```
from sklearn import ...
```