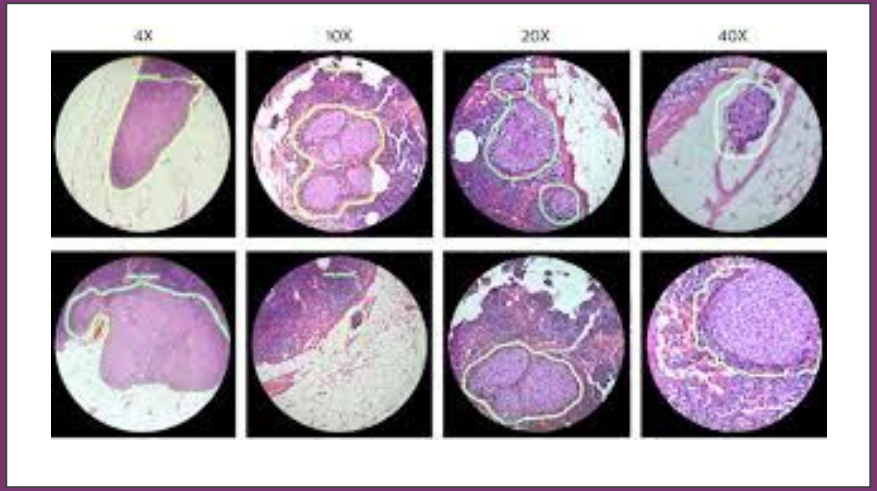
Visão Computacional com *Python*

Por onde começar?

Sara Araújo
Renata Souza


4X
10X
20X
40X

Aplicações


ID : 254875502
MALE
BROWN HAIR
CAUCASIAN
ID : 548765942
MALE
GREY HAIR
CAUCASIAN
SYSTEM
RECOGNITION
IN PROGRESS
27%
ID : 458625943
MALE
CAUCASIAN

Conceitos iniciais

Composição de uma imagem

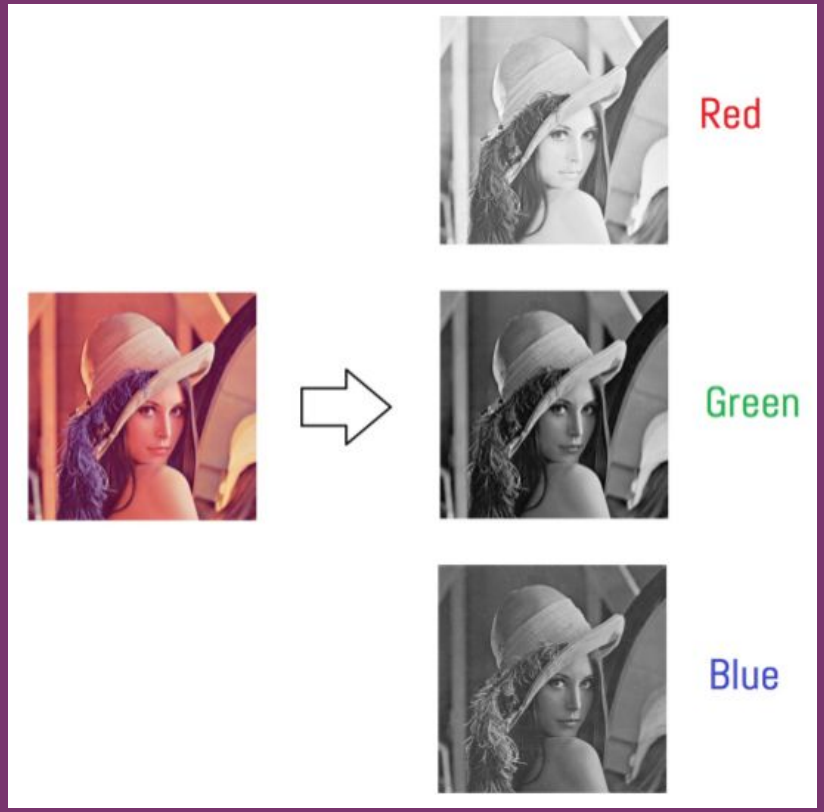
41	43	45	51	56	49	45	40
56	48	65	85	55	52	44	46
59	77	99	81	127	83	46	56
52	116	44	54	55	186	163	163
51	129	46	48	71	164	86	97
50	85	192	140	167	99	51	44
57	63	91	126	102	56	54	49
146	169	213	246	243	139	180	163
41	44	54	56	47	45	36	54

[1]

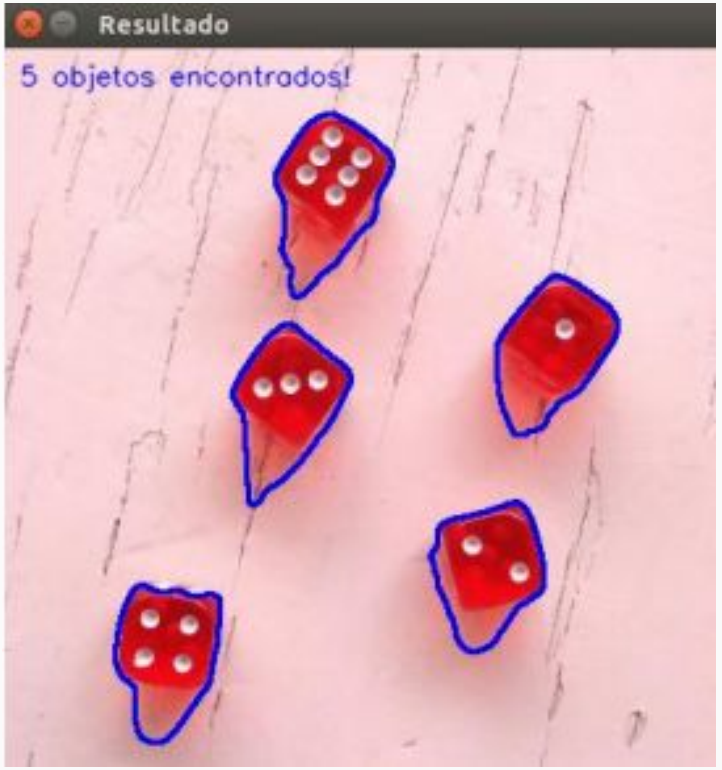
O Pixel

Cor

RGB, HSV

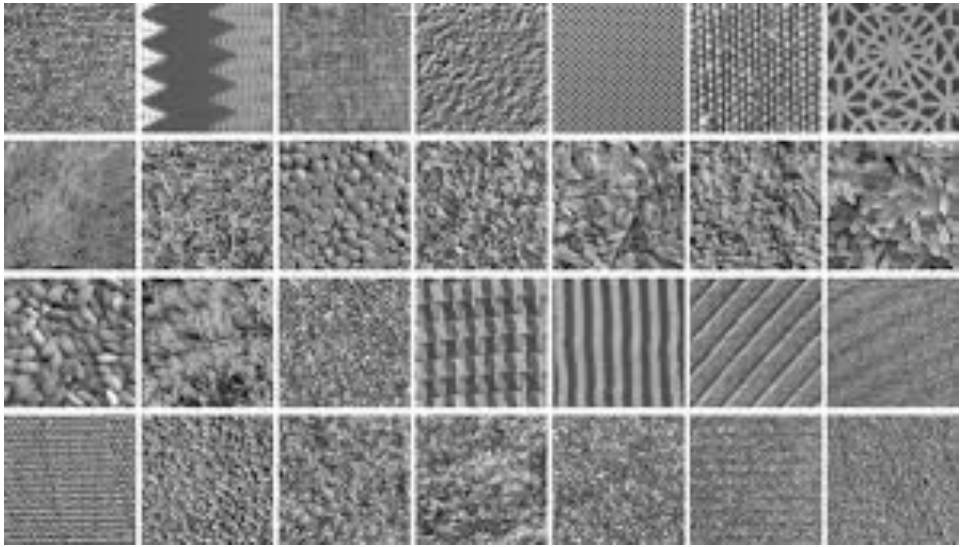


Borda



[3]

Textura



[1]

Processamento Digital de Imagem (PDI)

Processamento Digital de Imagem - Etapas

[2]

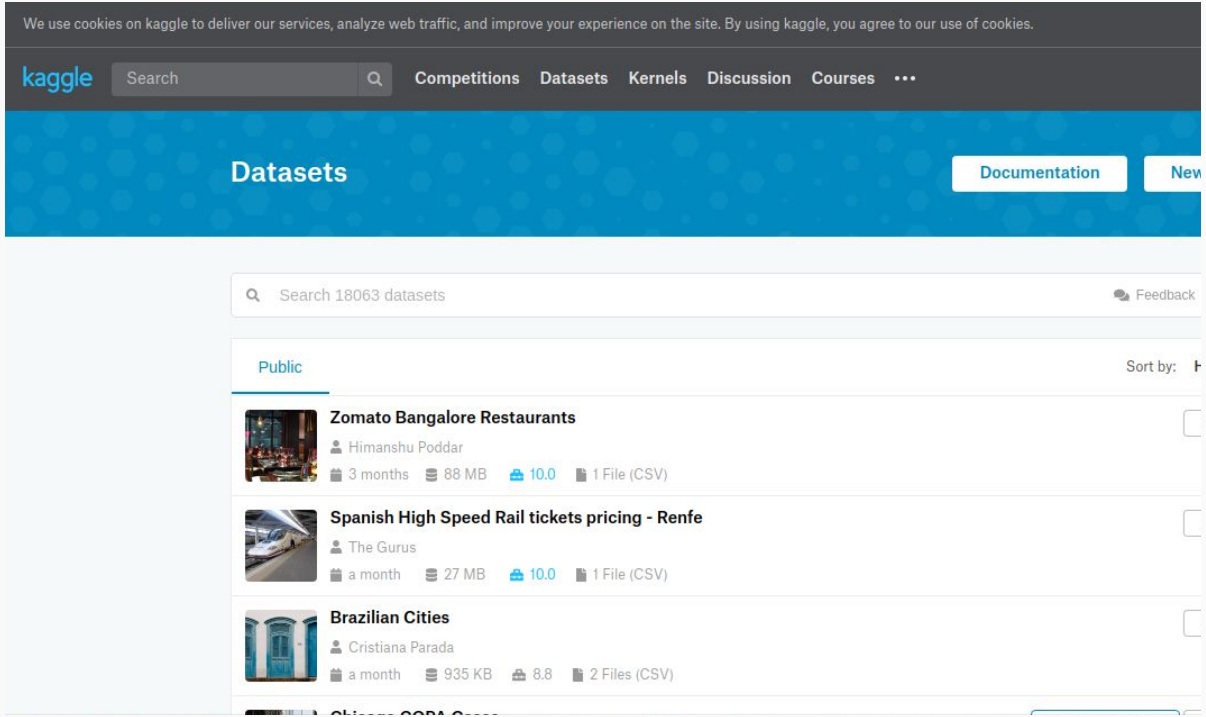
Aquisição

Aquisição de imagens

Base de dados aberta:

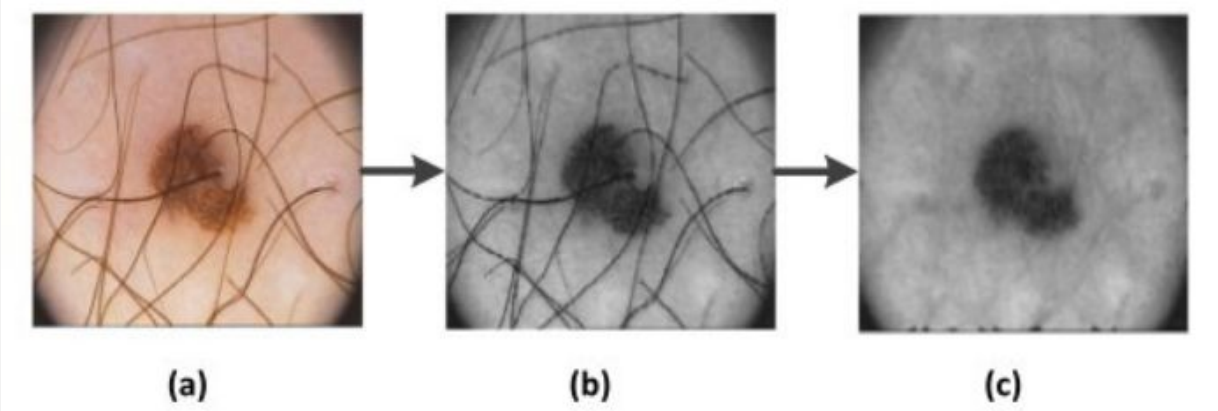
Plataforma Kaggle.

Acesse em: https://www.kaggle.com/datasets



Plataforma Kaggle de datasets. Acesse em: https://www.kaggle.com/datasets

Pré-processamento



Pré-processamento para remoção de pelos e artefatos. (a): Imagem original no formato RGB; (b): Imagem do canal B; (c): Imagem original após a remoção dos pelos [4].

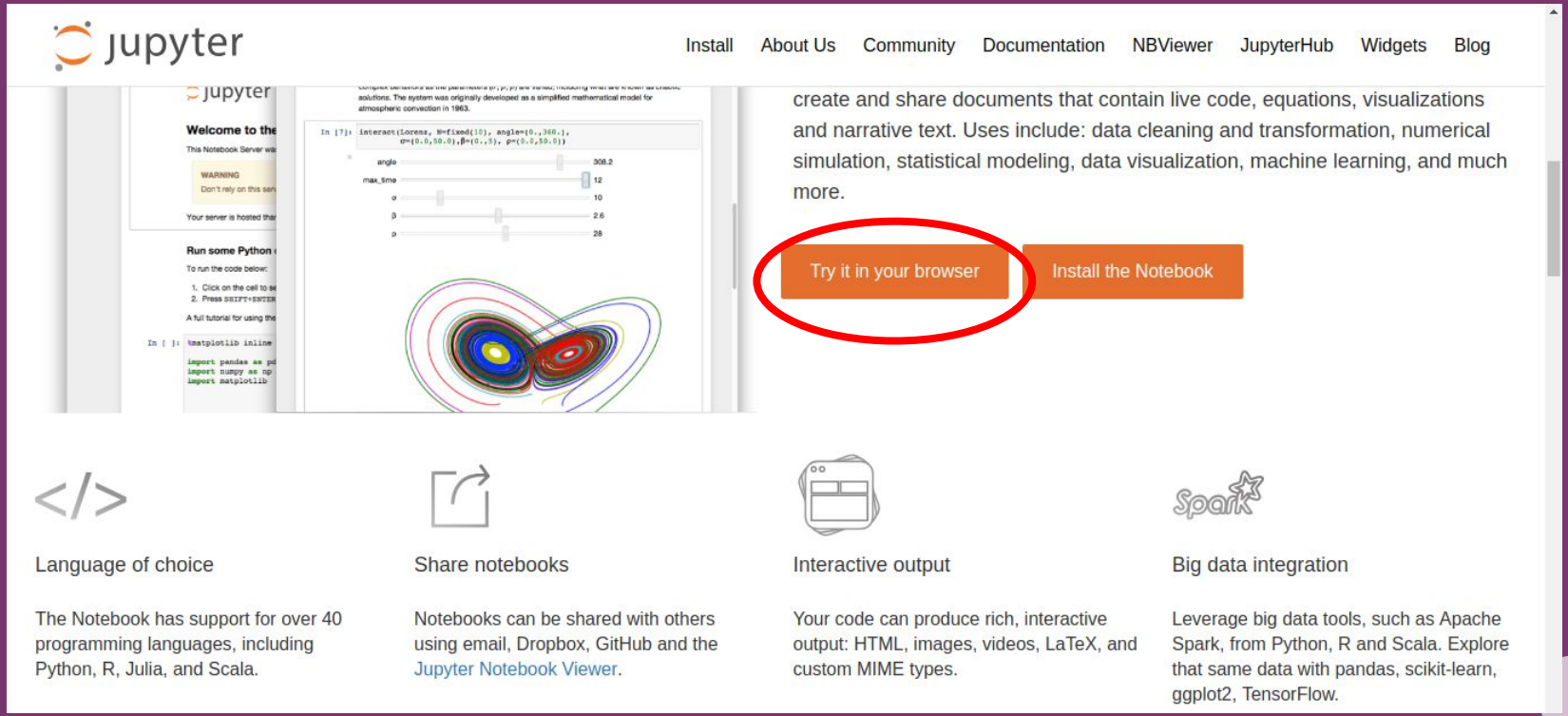
Extração de características

[2]

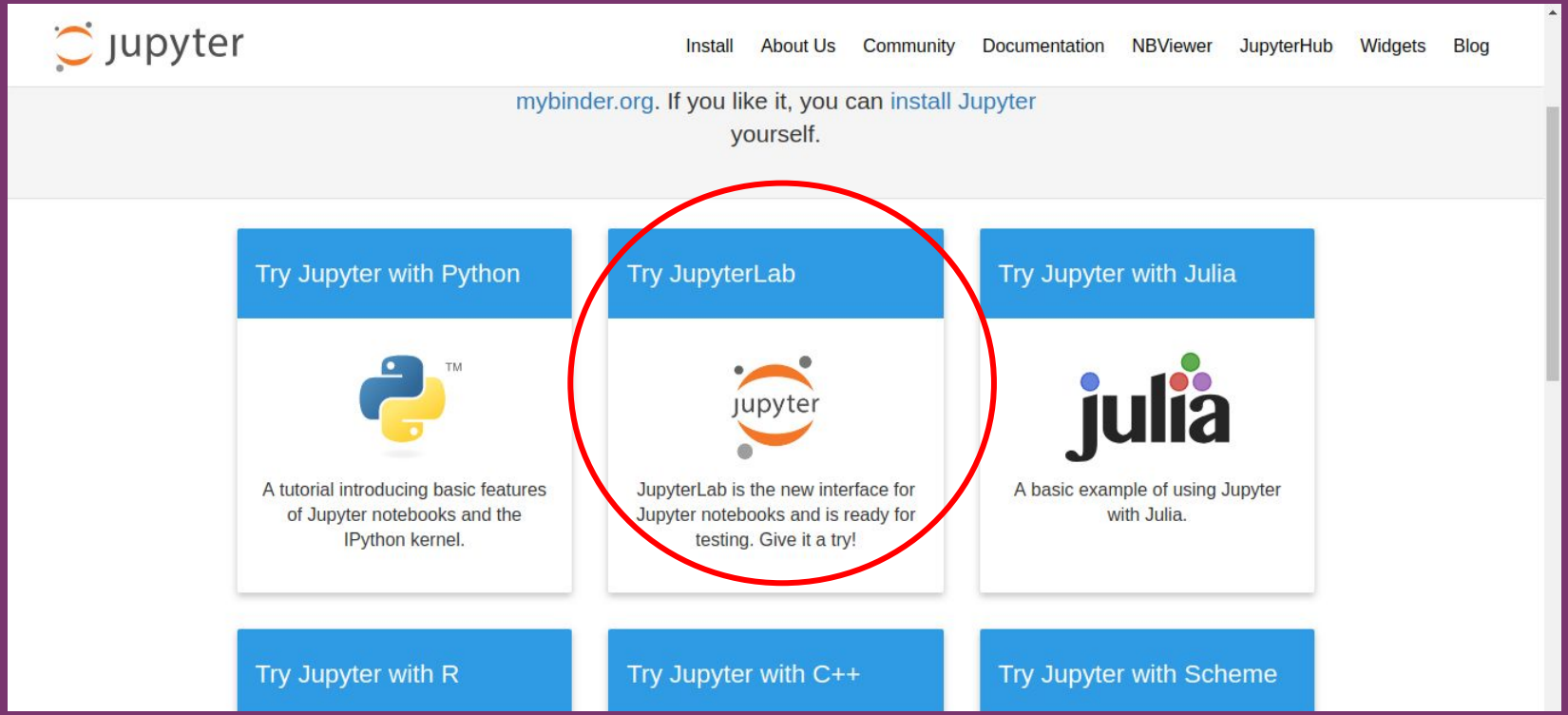
Vamos praticar??

Ferramentas

- Acesse: jupyter.org



- Clique e espere...



Obrigada!

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Referência Bibliográfica

[1] FISHER, R. B. et al. Dictionary of Computer Vision and Image Processing. [S.l.]: ProQuest Ebook Central, 2014.

[2] GONZALEZ RAFAEL C., W.R.E. Digital Image Processing. [S.l.]: Prentice Hall Professional Technical Reference, 1992.

[3] OPENCV. Introdução à visão computacional com OpenCV 3 . [S.l.], 2019. Disponível em: <https://docs.opencv.org/3.0-beta/doc/py_tutorials/py_setup/py_intro/py_intro.html#intro> Acessado em: 28/05/2019.

[4] ALFED, N.; KHELIFI, F. Bagged textural and color features for melanoma skin cancer detection in dermoscopic and standard images. Expert Systems with Applications, v. 90, p. 101–110, dez. 2017. ISSN 09574174. Disponível em: <https://linkinghub.elsevier.com/retrieve/pii/S0957417417305481>.