Herramientas de Software

Es un sistema operativo de código abierto para computadores. Es una distribución de Linux basada en la arquitectura de Debian.

Está orientado al usuario promedio, con un fuerte enfoque en la facilidad de uso y en mejorar la experiencia del usuario. Está compuesto de múltiple software normalmente distribuido bajo una licencia libre o de código abierto.

Instrucciones Instalación Ubuntu

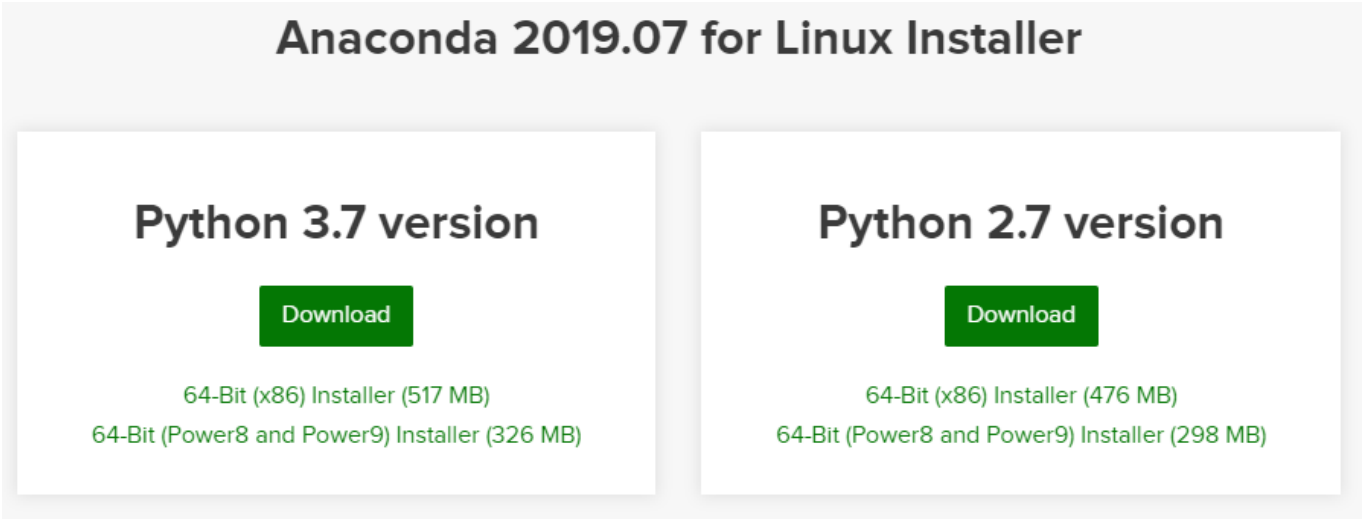
https://www.youtube.com/watch?v=kfI4YEBPyzQ

OpenCV es una biblioteca libre de visión artificial originalmente desarrollada por Intel. Desde que apareció su primera versión alfa en el mes de enero de 1999, se ha utilizado en infinidad de aplicaciones. Desde sistemas de seguridad con detección de movimiento, hasta aplicaciones de control de procesos donde se requiere reconocimiento de objetos.

Open CV es multiplataforma, existiendo versiones para GNU/Linux, Mac OS X, Windows y Android. Contiene más de 500 funciones que abarcan una gran gama de áreas en el proceso de visión, como reconocimiento de objetos (reconocimiento facial), calibración de cámaras, visión estérea y visión robótica.

Instrucciones Instalación OpenCV

www.learnopencv.com/install-opencv-3-4-4-on-ubuntu-16-04/



Anaconda is a free and open-source distribution of the Python and R programming languages for scientific computing (data science, machine learning applications, large-scale data processing, predictive analytics, etc.), that aims to simplify package management and deployment.

Anaconda Distribution

https://mas-dse.github.io/startup/anaconda-ubuntu-install/

Python es un lenguaje de programación interpretado cuya filosofía hace hincapié en una sintaxis que favorezca un código legible.

Se trata de un lenguaje de programación multiparadigma. Es un lenguaje interpretado y multiplataforma.

Es administrado por la Python Software Foundation. Posee una licencia de código abierto, denominada Python Software Foundation License,2 que es compatible con la Licencia pública general de GNU a partir de la versión 2.1.1, e incompatible en ciertas versiones anteriores.

https://www.python.org/

The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. Uses include: data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more.

https://jupyter.org/

NumPy

NumPy is the fundamental package for scientific computing with Python. It contains among other things:

- a powerful N-dimensional array object
- sophisticated (broadcasting) functions
- tools for integrating C/C++ and Fortran code
- useful linear algebra, Fourier transform, and random number capabilities

Besides its obvious scientific uses, NumPy can also be used as an efficient multi-dimensional container of generic data. Arbitrary data-types can be defined. This allows NumPy to seamlessly and speedily integrate with a wide variety of databases.

NumPy is licensed under the BSD license, enabling reuse with few restrictions.

https://numpy.org/

SciPy (pronounced “Sigh Pie”) is a Python-based ecosystem of open-source software for mathematics, science, and engineering.

SciPy contains modules for optimization, linear algebra, integration, interpolation, special functions, FFT, signal and image processing, ODE solvers and other tasks common in science and engineering.

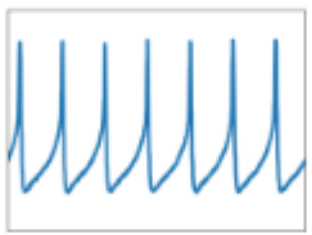
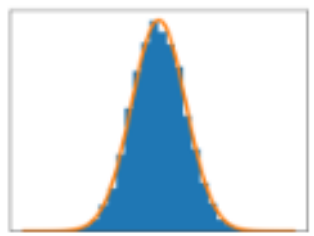
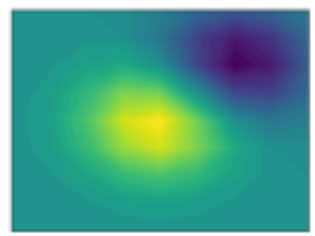
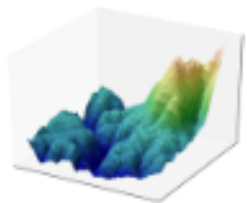
https://www.scipy.org/

matplotlib

Version 3.1.1

home | examples | tutorials | API | contents »

Matplotlib is a Python 2D plotting library which produces publication quality figures in a variety of hardcopy formats and interactive environments across platforms. Matplotlib can be used in Python scripts, the Python and IPython shells, the Jupyter notebook, web application servers, and four graphical user interface toolkits.

Matplotlib tries to make easy things easy and hard things possible. You can generate plots, histograms, power spectra, bar charts, errorcharts, scatterplots, etc., with just a few lines of code. For examples, see the sample plots and thumbnail gallery.

For simple plotting the `pyplot` module provides a MATLAB-like interface, particularly when combined with IPython. For the power user, you have full control of line styles, font properties, axes properties, etc, via an object oriented interface or via a set of functions familiar to MATLAB users.

https://matplotlib.org/index.html

https://scikit-learn.org/stable/