mavieth / **README-opencv-3.1-raspberry-pi-installation.md**

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How to install OpenCV 3.1 on Raspbian Jessie (Lite)

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Installing OpenCV 3.1 on Raspbian Jessie

Prerequisites

- Keep your system up to date:
  - `$ sudo apt-get update`
  - `$ sudo apt-get upgrade`
  - `$ sudo reboot`
- Make sure you've got an internet connection.
- Make sure you've got
  - wget
  - unzip

Installation

Run the script `install-opencv.sh`

install-opencv.sh

```
#!/usr/bin/env bash

OPENCV_VERSION="3.1.0"

OPENCV_URL="https://github.com/Itseez/opencv/archive/${OPENCV_VERSION}.zip"
OPENCV_PACKAGE_NAME="opencv-${OPENCV_VERSION}"
OPENCV_CONTRIB_URL="https://github.com/Itseez/opencv_contrib/archive/${OPENCV_VERSION}.zip"
OPENCV_CONTRIB_PACKAGE_NAME="opencv_contrib-${OPENCV_VERSION}"

PREFIX="${PREFIX:-/usr/local}"
MAKEFLAGS="${MAKEFLAGS:--j 4}"

install_build_dependencies() {
    local build_packages="build-essential git cmake pkg-config"
    local image_io_packages="libjpeg-dev libtiff5-dev libjasper-dev \
                             libpng12-dev"
    local video_io_packages="libavcodec-dev libavformat-dev \
                             libswscale-dev libv4l-dev \
                             libxvidcore-dev libx264-dev"
    local gtk_packages="libgtk2.0-dev"
    local matrix_packages="libatlas-base-dev gfortran"
    local python_dev_packages="python2.7-dev python3-dev python-pip python3-pip"

    sudo apt-get install -y $build_packages $image_io_packages $gtk_packages \
                        $video_io_packages $matrix_packages $python_dev_packages
}
```

```
27
28  install_global_python_dependencies() {
29      sudo pip install virtualenv virtualenvwrapper
30  }
31
32  install_local_python_dependences() {
33      pip install numpy
34  }
35
36  download_packages() {
37      wget -c -O "${OPENCV_PACKAGE_NAME}.zip" "$OPENCV_URL"
38      wget -c -O "${OPENCV_CONTRIB_PACKAGE_NAME}.zip" "$OPENCV_CONTRIB_URL"
39  }
40
41  unpack_packages() {
42      # unzip args:
43      # -q = quiet
44      # -n = never overwrite existing files
45      unzip -q -n "${OPENCV_PACKAGE_NAME}.zip"
46      unzip -q -n "${OPENCV_CONTRIB_PACKAGE_NAME}.zip"
47  }
48
49  setup_virtualenv() {
50      export WORKON_HOME="$HOME/.virtualenvs"
51      source /usr/local/bin/virtualenvwrapper.sh
52      mkvirtualenv -p python3 cv
53      workon cv
54      install_local_python_dependences
55  }
56
57  build() {
58      cmake -D CMAKE_BUILD_TYPE=RELEASE \
59            -D CMAKE_INSTALL_PREFIX="$PREFIX" \
60            -D INSTALL_C_EXMAPLES=OFF \
61            -D INSTALL_PYTHON_EXAMPLES=ON \
62            -D OPENCV_EXTRA_MODULES_PATH="$HOME/$OPENCV_CONTRIB_PACKAGE_NAME/modules" \
63            -D BUILD_EXAMPLES=ON \
64            ..
65      make ${MAKEFLAGS}
66  }
67
68  install() {
69      sudo make install
70      sudo ldconfig
71  }
72
73  log() {
74      local msg="$1"; shift
75      local _color_bold_yellow='\e[1;33m'
76      local _color_reset='\e[0m'
77      echo -e "\[${_color_bold_yellow}\]${msg}\[${_color_reset}\]"
78  }
79
80  main() {
81      log "Installing build dependencies..."
82      install_build_dependencies
83      log "Downloading OpenCV packages..."
84      download_packages
85      log "Unpacking OpenCV packages..."
86      unpack_packages
87      log "Installing global python deps..."
88      install_global_python_dependencies
89      log "Setting up local python environment..."
90      setup_virtualenv
91      log "Building OpenCV..."
92
```

```
    cd "$OPENCV_PACKAGE_NAME"
    mkdir build
    cd build

    build
    echo "Installing OpenCV..."
    install
}

main
```