TensorFlow
- Installation on Raspbery Pi -

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Virtualenv

- Install mechanism
  - virtualenv ← *install this way*
    - a tool to create isolated Python environment
      - To deal with version dependency problems
  - "native" pip
    - Pip is package manager
  - Docker
  - Anaconda: a python distribution
    - Conda is a packaging tool and installer that aims to do more than what pip does
    - Anaconda is package manager + environment manager + additional scientific libraries

- virtualenv creates a folder which contains all the necessary executables to use the packages that a Python project would need.

TensorFlow installation with Virtualenv

- [pi@raspberrypi] sudo apt-get python-virtualenv
- [pi@raspberrypi] source ~/tensorflow/bin/activate
- (tensorflow) [pi@raspberrypi] pip install --upgrade tensorflow
- (tensorflow) [pi@raspberrypi] pip list | grep tensorflow
- (tensorflow) [pi@raspberrypi] python -c 'import tensorflow as tf; print(tf.__version__)'
- (tensorflow) [pi@raspberrypi] deactivate
- [pi@raspberrypi]

Install prerequisites

- For Python 3.x
  - Install Atlas
    - $ sudo apt install libatlas-base-dev
  - Install TensorFlow and check version
    - $ pip3 install tensorflow
    - $ python3 -c 'import tensorflow as tf; print(tf.__version__)'
  - Install example code (optional)
    - $ cd ~/work
    - $ git clone https://github.com/tensorflow/tensorflow.git
- For Python 2.7
  - Install Atlas
    - $ sudo apt install libatlas-base-dev
  - Install TensorFlow and check version
    - $ pip install tensorflow
    - $ python -c 'import tensorflow as tf; print(tf.__version__)'
  - Install example code (optional)
    - $ cd ~/work
    - $ git clone https://github.com/tensorflow/tensorflow.git

Testing TensorFlow (for Python3)

- [pi@raspberrypi] python3
- Python 3.7.3 (default, Apr 3 2019, 05:39:12)
- [GCC 8.2.0] on linux
- Type "help", "copyright", "credits" or "license" for more information.
- >>> import tensorflow as tf
- ..... some Warnings .....
- >>> hello = tf.constant('Hello, TensorFlow!')
- >>> sess = tf.Session()
- >>> print(sess.run(hello))
- b'Hello, TensorFlow!'
- >>> quit()
- [pi@raspberrypi]

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