**Prerequisites**

To build the C code, it requires gcc and g++ (>=4.8). To run scripts and tests, it requires Python2 (>= 2.7) installed.

It also requires a number of Python packages:

* [numpy](http://www.numpy.org/) (>=1.12.0)
* [scipy](http://www.scipy.org/) (>=0.17.1)
* [matplotlib](http://matplotlib.org/1.3.1/index.html) (>=2.0.0)
* [pandas](http://pandas.pydata.org/) (>=0.19.2)
* [scikit-learn](http://scikit-learn.org/stable/) (>=0.18.1)
* [scikit-image](http://scikit-image.org/) (>=0.13.1)
* [h5py](http://www.h5py.org/) (>=2.6.0)
* [sureal](https://github.com/Netflix/sureal) (>=0.1.1)

**Build Steps**

#### Linux (Ubuntu)

1. Install the dependencies:

sudo apt-get update -qq && \

sudo apt-get install -y \

pkg-config gfortran libhdf5-dev libfreetype6-dev liblapack-dev \

python python-setuptools python-dev python-pip python-tk

1. Upgrade pip to the newest version(pip 18.1)

python -m pip install --upgrade pip

1. Then install the required Python packages:

pip install --user numpy scipy matplotlib pandas scikit-learn scikit-image h5py sureal

1. Make sure your user install executable directory is on your PATH. Add this to the end of ~/.bashrc and restart your shell:

export PATH="$PATH:$HOME/.local/bin"

1. Clone VMAF repository

git clone <https://github.com/Netflix/vmaf.git>

1. After cloning VMAF repository, cd to the repo directory and run:

make

1. Add the python/src subdirectories to the environment variable PYTHONPATH:

export PYTHONPATH="$(pwd)/python/src:$PYTHONPATH"

1. You can also add it to the environment permanently, by appending to ~/.bashrc:

echo export PYTHONPATH="$(pwd)/python/src:$PYTHONPATH" >> ~/.bashrc

source ~/.bashrc

1. Install VMAF

make install

1. Clone FFmeg repository

https://github.com/FFmpeg/FFmpeg.git

1. After cloning FFmpeg repository, cd to the repo directory and run:

./configure --enable-gpl --enable-libx264 --enable-libx265 --enable-libvpx --enable-libvmaf --enable-version3

make

**For details of VMAF, please refer to the below line.**

<https://github.com/Netflix/vmaf/blob/master/resource/doc/VMAF_Python_library.md>