Install Notes - CVXPY 1.0.8

Windows 10, Anaconda

In general, follow the steps of the official install guide.

<https://www.cvxpy.org/install/index.html>

I found that even when I installed following the recommendations of the guide, it failed in multiple ways. I recorded the steps to fix it here. Everything is done from within the Anaconda Prompt (including pip installs).

Helpful conda commands:

<https://conda.io/docs/_downloads/conda-cheatsheet.pdf>

Detailed steps on next page:

Here are the steps I had to take to get a working install of CVXPY on Windows 10 using Python 3.6 in Anaconda. I pretty much gave up all hope of having any kind of automatic package management of CVXPY.

1. Make and activate a new environment
   1. Example: Run the command: conda create --name py36 python=3.6
   2. You can also use your existing environment but it is probably safer to try installing to a throwaway environment first in case it breaks
2. Install some CVXPY dependencies (if not already installed)
   1. Run the command: conda install numpy
3. (optional) Upgrade pip
   1. Run the command: python -m pip install --upgrade pip
4. Install ecos
   1. Run the command: pip install ecos==2.0.7rc2
      1. For me, just trying “pip install ecos” did not work
   2. I borrowed this step from the instructions here:
      1. <https://github.com/embotech/ecos-python/issues/10>
   3. I found that simply updating conda was not enough to fix this issue as was suggested by ‘nzhou’ in this thread:
      1. <https://github.com/cvxgrp/cvxpy/issues/492>
5. Install SCS
   1. <https://www.lfd.uci.edu/~gohlke/pythonlibs/#scs>
   2. Download the file: scs‑1.2.7‑cp36‑cp36m‑win\_amd64.whl
   3. Place the file somewhere in your filesystem
   4. Navigate (cd) your Anaconda prompt to the location where the file is
   5. Run the command: pip install scs‑1.2.7‑cp36‑cp36m‑win\_amd64.whl
   6. I borrowed this step from the instructions here:
      1. <http://i-systems.github.io/HSE545/machine%20learning%20all/cvxpy_install/CVXPY%2BInstallation%2BGuide%2Bfor%2BWindows.html>
6. Install CVXYPY
   1. Run the command: pip install cvxpy
7. Install nose
   1. Run the command: conda install nose
8. Run nose tests
   1. Run command: nosetests cvxpy
   2. If everything went well it should say “OK” at the end
   3. Possible errors:
      1. “Failed building wheel for ecos”
         1. Should be resolved if you followed step 4
      2. “Solver ‘SCS’ failed”
         1. Should be resolved if you followed step 5
      3. “Module (or package?) cvxpy not found”
         1. Should be resolved if you followed step 7
9. Beware that the “official” examples have apparently not been updated to CVXPY 1.0 which can cause some issues.
   1. <https://www.cvxpy.org/examples/index.html>
   2. For example, the control example
      1. <http://nbviewer.jupyter.org/github/cvxgrp/cvx_short_course/blob/master/intro/control.ipynb>
      2. <https://groups.google.com/forum/#!topic/cvxpy/5hBSB9KVbuI>
   3. The developers made a script to automatically convert CVXPY 0.4.11 code to CVXPY 1.0.8 code, but it apparently is may not be complete/fool-proof based on the above example
      1. <http://www.cvxpy.org/updates/index.html>

\*Python 2.7 Note:

For Python 2.7 I had to install SCS manually as well.

Try running the basic examples code in the GitHub directory to see if you have basic functionality working within your Python console/editor.