ME424 Modern Control and Estimation

Tutorial #3 Install Drake on Your Computer

Drake is the main software toolbox that we use for this class. The Drake website is the main source for information and documentation. To save your time, this tutorial will provide you the method to install Drake. Note that you need to do all the works in your Ubuntu or WSL environment, which we have down in homework #1.

Python Virtual Environment

Python virtual environments help decouple and isolate Python installs and associated pip packages. If you screw up in a virtual environment you can always delete it. So it is best practice to install pydrake in a python virtual environment.

- Install venv module with

  ```
  sudo apt install python3.8-venv
  ```

- Create a virtual env with

  ```
  python3 -m venv myenv
  ```

  This command will create a virtual environment called `myenv` in current directory.

- Activate the virtualenv with

  ```
  source ./myenv/bin/activate
  ```

- Deactivate the virtualenv with

  ```
  deactivate
  ```

- To delete the virtual environment, just remove the folder containing the virtual environment.

Install pydrake with pip

> **Notice:** Drake does not support Anaconda.

- Pydrake can be installed with `pip`

  ```
  python3 -m venv env
  env/bin/pip install --upgrade pip
  env/bin/pip install drake
  ```

  Above commands create a virtual environment called `env` and install `pydrake` in this virtual environment.

- You also need some runtime libraries. Install these addtional libraries if you do not have them in your system yet:

```
sudo apt-get install --no-install-recommends \
  libpython3.8 libx11-6 libsm6 libxt6 libglib2.0-0
```

- Activate the virtual environment:

  ```
  source env/bin/activate
  ```

- Enter the python command line.

  ```
  python3
  ```

- Test whether drake is installed successfully.

  ```
  import drake
  ```

  If there are no errors, congratulations, the installation is successful.