B4M36UIR & BE4M36UIR

Lab10 - Curvature-constrained Data Collection Path Planning ((D)TSPN)

https://github.com/AndrewWalker/pydubins

Here, you can find how to install a specific package into python.

Installation on school computers (without root):

```
# download script for pip installation
wget https://bootstrap.pypa.io/get-pip.py
```

```
# install pip into your home directory
python2 get-pip.py --user
rm get-pip.py
# set PATH in system
echo "PATH=\$PATH:~/.local/bin" >> ~/.bashrc
# use modified .bashrc file
source ~/.bashrc

# install dubins library into your home directory
pip install dubins --user
```

Installation on your own computers (using root):

```
# install pip for installing Python packages
sudo apt-get install python-pip python-dev build-essential
sudo pip install --upgrade pip
sudo pip install --upgrade virtualenv

# install the dubins library
sudo pip install dubins
```

The following methods are available. For more information, see https://github.com/AndrewWalker/pydubins/blob/master/dubins/dubins.pyx

```
LSL = 0
LSR = 1
RSL = 2
RSR = 3
RLR = 4
LRL = 5

def path_type(q0, q1, rho):
    '''Identify which type of path is produced between configurations ... '''

def path_length(q0, q1, rho):
    '''Return the total length of a Dubins path ... '''

def path_sample(q0, q1, rho, step_size):
    '''Sample a Dubins' path at a fixed step interval .... '''
```