import pinocchio

from sys import argv

from os.path import dirname, join, abspath

# Load the urdf model

model = pinocchio.buildModelFromUrdf(‘/home/bmtsz/control\_ws/src/unitree\_ros/robots/a1\_description/urdf/a1.urdf’, pinocchio.JointModelFreeFlyer())

print('model name: ' + model.name)

# Create data required by the algorithms

data = model.createData()

# Sample a random configuration

q = [pinocchio.randomConfiguration](https://gepettoweb.laas.fr/doc/stack-of-tasks/pinocchio/master/doxygen-html/namespacepinocchio.html" \l "a97d16d606dd5552522fe76132bf517c1)(model)

print('q: %s' % q.T)

# Perform the forward kinematics over the kinematic tree

[pinocchio.forwardKinematics](https://gepettoweb.laas.fr/doc/stack-of-tasks/pinocchio/master/doxygen-html/namespacepinocchio.html" \l "a601f17282020e4bb7d3e6f72b934fbe4)(model,data,q)

# Print out the placement of each joint of the kinematic tree

for name, oMi in zip(model.names, data.oMi):

print(("{:<24} : {: .2f} {: .2f} {: .2f}"

.format( name, \*oMi.translation.T.flat )))

idx\_FLFoot = model.getFrameId('FL\_foot')